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Iboga / Ibogaine

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Introduction

"The Catholic church is a beautiful theory for Sunday, the iboga on the contrary is the practice of everyday living. In church, they speak of God, with iboga, you live God" (Nengue Me Ndjoung Isidore, ecumenical Bwist religious leader)¹

Ibogaine's development as a putative treatment of substance-use disorders may certainly be described as unusual. In Western Europe and the United States, the use of ibogaine originated among individuals using drugs for the purpose of altering consciousness in the early 1960s, a period identified historically with the widespread introduction, and ethnographic and ethnobotanical studies of hallucinogens. The work of Timothy Leary and R. Gordon Wasson, as well as the media attention focused on psychedelics, led to the establishment of the group, in which ibogaine's apparent utility to treat opiate, cocaine, and amphetamine dependence was first described. Historically, the lines of this research can be traced to Aldous Huxley and Lewis Lewin and, with some liberty, into prehistory.

This chapter reviews the use of ibogaine in three different contexts; a drug user group, a self-help organization, and a clinical research setting. Each section is followed by the self-report of a subject who has taken ibogaine within the setting being reviewed. These settings contrast with the use of iboga in Gabon, Africa as a practice of the Bwiti, an African religion sometimes referred to as an initiation society, as documented by Fernandez and Gollnhofer, during which ibogaine-containing plants are provided in rites to assist in the transition from adolescence into adulthood, for psychiatric healing, or for other purposes.²

Ibogaine therapy has emerged in the last twenty years as a viable option for motivated chemically dependent individuals who wish to cease their dependence. The extremely costly regulatory approval process and the reluctance by major pharmaceutical firms to pursue regulatory approval in the West has led to the formation of non-medical ibogaine treatment movements in many countries. This document is intended for medical doctors as well as, for lay-healers who have little or no medical experience, but who are nevertheless concerned with patient safety and the outcome of Ibogaine treatments. The

¹ <http://www.ebando.org/en/EN.iboga.htm>

² <http://www.doraweiner.org/alexanderlotsof.html>

NIDA draft clinical protocol, however, may be useful to researchers in formal drug development.

It is the responsibility of those treatment providers to safely conduct the procedure despite possible limitations of clinical knowledge, patient compliance, money, time etc. The safety of Ibogaine treated patients is the primary objective of this document. Reported Ibogaine-related problems or fatalities might very likely be avoided if simple screening, dosing and monitoring guidelines are adhered to. However, this must be taken in some context as, in 1999 there were 116,000 drug related fatalities in United States hospitals associated with FDA approved medications.

This manual includes selected portions of the National Institute on Drug Abuse (NIDA) Draft Ibogaine Clinical Protocol obtained under a Freedom of Information Act (FOIA) request. Selections are principally directed towards safety issues. Aspects of the therapeutic sessions from the NIDA protocol are included as well as, bibliographical citations relevant to the sections from the protocol. More recent reports providing updated information are included in the Additional Documents section.

Any comments of the author(s) within the selected protocol text are indicated by "[]" brackets. The "*" asterisk is used to indicate tests procedures or surveys not included in NIDA's 1993, draft protocol but, suggested either in discussion with the FDA or by later publication.

In a memorandum dated March 10, 1995, Dr. Curtis Wright, Medical Review Officer, Pilot Drug Evaluation Unit, FDA wrote, "I think that ibogaine research will be propelled forward by its advocates, as it will be very hard to make a case that it is unsafe to take a drug into man when there is such substantial documented human experience. I agree with the speaker [March 1995, NIDA Ibogaine Review Meeting] that it is a risk-benefit analysis, but all such development decisions are finally reduced to this basis. The Development question is if ibogaine can be given safely, and if so, will it provide some benefit."

Ibogaine has been propelled by its advocates since then, and administered in many countries often outside the medical establishment. Unfortunately, safety issues are not frequently addressed or evaluated properly. Our objective is to provide basic guidelines and improve patient safety with information. This information is made available for the benefit of the treatment provider and their patients. ³

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³ <http://www.ibogaine.desk.nl/manual.html>

Safety and Exclusion Criteria

To date, there is no published data from a controlled clinical trial that has assessed the safety of ibogaine in the treatment of drug addictions. Information from the anecdotal reports indicates there is a mild transient increase in blood pressure and a minimal effect on pulse and respiration.

To date, there is no published data from a controlled clinical trial that was conducted to assess the preliminary efficacy of ibogaine in the treatment of drug addictions. The initial observations of effects of ibogaine was a narrative account ([L.A.C., 1991](#)) of the results of taking ibogaine in the mid 1960s by seven heroin addicts, five of whom several days later reported no signs of withdrawal, abstinence, and no desire to take heroin.

Of the 7 clients in the mid-sixties, 6 received one treatment of ibogaine and the effects were that 2 resumed heroin use 24 hours later, one resumed heroin use 5.5 months later and the remaining 3 were drug-free 6 months after receiving ibogaine. One subject reported receiving ibogaine 5 times and reported abstinence from: heroin use for 3 years, cocaine use for 18 months and amphetamine use for 6 months.

Of the 18 clients in a contemporary group, 17 received one treatment of ibogaine and one received 2 treatments. After ibogaine, two clients continued to take heroin and one resumed heroin use 5 days later. Six subjects were drug-free from 2 weeks to 18 months, but contact was lost with them. Two subjects were heroin-free for six months and were awaiting retreatment with ibogaine. One subject was cocaine-free for 3.5 years. The remaining 5 subjects were drug-free for 2-10 months.

Iboga: Geography, History, Chemistry & Biology

Short Overview

Tabernanthe iboga var. *iboga* and *Tabernanthe iboga* var. *manii*, also known as *Tabernanthe iboga* or *Iboga*, is a perennial rainforest shrub and hallucinogen, native to western Central Africa. *Iboga* stimulates the central nervous system when taken in small doses and induces visions in larger doses. In parts of Africa where the plant grows the bark is chewed for various pharmacological or ritualistic purposes. Ibogaine, the active alkaloid, is also used to treat substance abuse disorders.

Normally growing to a height of 2 m, *T. Iboga* may eventually grow into a small tree up to 10 m tall, given the right conditions. It has small green leaves. Its flowers are white and pink, while the elongated, oval-shaped fruit are orange, it blooms from march to june. Its yellow-coloured roots contains a number of indole alkaloids, most notably ibogaine, which is found in the highest concentration in the root-bark. The root material, bitter in taste, causes an anaesthetic sensation in the mouth as well as systemic numbness to the skin.⁴⁵

⁴ http://en.wikipedia.org/wiki/Tabernanthe_iboga

⁵ <http://www.alraune.org/pflanzenliste/iboga>

Iboga is known under several different names, some of them are: Abona, Abonete, Aboua, Abua, Bocca, Boccawurzel, Boga, Botola, Bugensongo, Dibuga, Dibugi, Difuma, Eboga, Eboga bush, Eboka, Elahu, Eroga, Gbana, Gifuma, M'boa, Ibogua, Iboga, Isangola, Leboka, Liboko, Mungondo, Obona⁶

Traditional Use / History

The Iboga tree is the central pillar of the Bwiti religion practiced in West-Central Africa, mainly Gabon, Cameroon and the Republic of the Congo, which utilises the alkaloid-containing roots of the plant in a number of ceremonies. Iboga is taken in massive doses by initiates when entering the religion, and on a more regular basis is eaten in smaller doses in connection with rituals and tribal dances, which is usually performed at night time. Bwitists have been subject to persecution by Catholic missionaries, who to this day are thoroughly opposed to the growing religious movement of Bwiti. Léon M'ba, before becoming the first President of Gabon in 1960, defended the Bwiti religion and the use of iboga in French colonial courts. On June 6, 2000, the Council of Ministers of the Republic of Gabon declared *Tabernanthe iboga* to be a national treasure.⁷

Der Ibogastrauch soll aus einem Menschen entstanden sein. Die Pflanze gilt bei vielen Menschen als Brücke "zu den Ahnen". Die Einnahme von Iboga bewirkt eine Reise in die Vergangenheit. Alraune

Outside Africa, iboga extracts as well as the purified alkaloid ibogaine are used in treating opiate addiction. The therapy may last several days and upon completion the subject is generally no longer physically dependent. One methadone patient said in the Dutch behind-the-news show *Twee Vandaag* that in just four days he reached a state that normally would have taken him three months, but without the agony. Evidence suggests that ibogaine may also help to interrupt addiction to alcohol and nicotine. The pharmacological effects are rather undisputed with hundreds of peer reviewed papers in support but formal clinical studies have not been completed.⁸

In Gabun und umliegenden Ländern werden Bwiti-Messen abgehalten, bei denen an 3 aufeinander folgenden Tagen Ibogawurzel eingenommen wird. Während des Tages tanzt und singt man. Alraune

Die Bereitung der Droge geschieht auf folgende Weise: Die frische oder getrocknete^(#31) Wurzelrinde wird geraspelt oder zu Pulver zerrieben und gegessen,^(#11) oder auch gekaut.^(#32) Manchmal wird auch ein daraus bereiteter Aufguss getrunken.^(#11, #32) Es werden auch alkoholische Auszüge verwendet.^(#31) Im Kongo wird aus der Wurzel ein kraeftiges Aphrodisiakum hergestellt. Dazu lässt man Wurzelstücke einige Stunden in

⁶ <http://www.alraune.org/pflanzenliste/iboga>

⁷ http://en.wikipedia.org/wiki/Tabernanthe_iboga

⁸ http://en.wikipedia.org/wiki/Tabernanthe_iboga

Palmwein ziehen. ^(#32) Die Droge wird auch mit anderen Pflanzen vermengt. So werden Yohimbe (Corynanthe yohimbe), Niando (Alchornea floribunda Mueller-Argoviensis) und andere unbekannte Pflanzen genutzt. ^(#31) Die Droge wird auf 2 Arten eingenommen: regelmässig in kleinen Mengen vor und während des ersten Teils der Zeremonien und noch einmal, in geringerer Dosierung, nach Mitternacht; sodann 1- oder 2x während der Initiationsfeier in die kultische Gemeinde, diesmal in einer Ueberdosis (1-3 Koerbe voll, verteilt ueber eine Zeitspanne von 8-24h), um "den Kopf aufzubrechen" und so "durch koerperlichen Zusammenbruch und Halluzinationen die Verbindung mit den Vorfahren herzustellen". ^(#11)

Die afrikanischen Bewohner benutzen Iboga auch bei 'Gottesgerichten'. Es wird berichtet, dass die Bewohner Gabuns es den Adepten geben, die sich um die Zulassung zu einem der dortigen Geheimbuende bewarben. "Man gibt ihnen das Iboga. Wenn sie dann weisse Voegel sehen, werden sie in die Bruderschaft aufgenommen, andernfalls abgewiesen." ^(#13) Auch als Stimulans wurde das Mittel benutzt, jedoch wird es nur in kleineren Mengen eingenommen. ^(#13, #36) ⁹

The Iboga tree is the central pillar of the Bwiti religion practiced in West-Central Africa, mainly Gabon, Cameroon and the Republic of the Congo, which utilises the alkaloid-containing roots of the plant in a number of ceremonies. Iboga is taken in massive doses by initiates when entering the religion, and on a more regular basis is eaten in smaller doses in connection with rituals and tribal dances, which is usually performed at night time. Bwitists have been subject to persecution by Catholic missionaries, who to this day are thoroughly opposed to the growing religious movement of Bwiti. Léon M'ba, before becoming the first President of Gabon in 1960, defended the Bwiti religion and the use of iboga in French colonial courts. On June 6, 2000, the Council of Ministers of the Republic of Gabon declared Tabernanthe iboga to be a national treasure. ¹⁰

Bwiti Culture

Bwiti is a West Central African religion practiced by the forest-dwelling Babongo and Mitsogo people of Gabon (where it is one of the three official religions) and the Fang people of Gabon and Cameroon. Modern Bwiti is syncretistic, incorporating animism, ancestor worship and Christianity into its belief system.

Bwiti use the hallucinogenic rootbark of the Tabernanthe iboga plant, specially cultivated for the religion, to induce a spiritual enlightenment, stabilize community and family structure, meet religious requirements and to solve problems of a spiritual and/or medical nature. The active ingredient of the root, ibogaine, has been studied scientifically.

The root bark has been used for hundreds of years as part of a Bwiti coming of age ceremony and other initiation rites and acts of healing, producing complex visions and insights anticipated to be valuable to the initiate and the chapel. The root bark or its extract are taken in doses high enough to cause vomiting and ataxia as common side effects.

Bwiti ceremonies are led by a (male or female) spiritual leader called N'ganga who is a

⁹ <http://catbull.com/alamut/Lexikon/Pflanzen/Tabernanthe%20iboga.htm>

¹⁰ <http://www.ebando.org/en/EN.iboga.htm>

very important member of the community and has extensive knowledge of traditional healing practices, hexes and spells. The crucial rite of Bwiti is the initiation ceremony, when young Gabonese men take iboga for the first time in the men's hut to become members of the religion. There are many ceremonies at different times of the year to give homage to the ancestors. Special ceremonies may be held to heal sick persons or drive out harmful spirits. While early forms of Bwiti excluded women, modern chapels include men and women.

During many ceremonies, a traditional torch made of bark and tree sap is burned. Musicians playing drums and a traditional Ngombi harp are central to the rites. The N'ganga and other participants usually dress in red, black and white cloth. They may wear skirts of raffia material and small shells or beads. Animal skins, such as civet cat fur, are often worn. The iboga root may be made into a tea or more often taken in the form of scrapings. Ceremonies usually begin at night and may last for days as the doses of the drug used in these ceremonies is particularly long lasting.¹¹

The Bwiti initiation ceremony is a thousands year old secret rite of passage that takes place in the rainforests of Africa. Its origins are unknown but it is generally acknowledged that the ancient Pygmy folk, the original inhabitants of the Congo basin, passed the knowledge and method on to the Bantu tribes who slowly moved into the basin over the last couple of centuries. The traditional Bantu tribespeople adapted and changed the ritual to blend in with their own practices, but all acknowledge that the central premises remain the same. There are as many variations of the Bwiti ceremony as there are tribes, and more. Christianity has had a major influence in some regions, and church iconography is commonplace. Others are more animist and fetishist, in keeping with traditional African belief systems. But all have one central pervading theme - Iboga and the unseen world that it introduces you to. This page details in picture-story form the Bwiti initiation ceremony. Photos were taken from various sources. The ceremony takes place in a number of stages

- ☐ The cleansing and preparation phases
- ☐ In the forest when the Banzi or initiate starts to consume the Iboga
- ☐ Moving from the forest toward the temple
- ☐ In the temple, early phases while the initiate is led with the music to meet the Bwiti ancestors
- ☐ In the temple for the duration of the initiation, while the Banzi is guided through all the phases. This period can last up to three days¹²

The History of Bwiti

Bwiti religion is widespread in Gabon, both in the interior of the jungle where it originated and in the capital, Libreville. During the last twenty years it has crossed its frontiers and reached Cameroon, Congo, Zaire, and Equatorial Guinea. In the latter, the

¹¹ <http://www.ebando.org/en/EN.iboga.htm>

¹² <http://ibogaine.lycaum.org/intro.htm>

Bwitist community is somewhat clandestine because of the energetic opposition of the Catholic missions.

According to the Bwitist genesis, the hallucinogenic properties of the iboga were first discovered by the Pygmies in the interior of the jungle. They in turn passed their knowledge on the neighboring people, the Apindji and the Mitsogho, who started the first Bwitist rituals. Later on, this knowledge was passed on to the Fang, the Eshira and other ethnic groups throughout southern Gabon. Within the Fang the Bwitist movement, due to continuous reform and review of its creed, become more and more distant from other tribal cults, which it in part substituted. In particular, the original Bwiti assumed certain characteristics of another ancestral cult, the Byeri, in whose rituals a different hallucinogen was used, alan (plural melan). The Byeri advocated a private cult practiced by the descendants of patrilinear families. At the climax of the initiation ceremony, the initiate, under the influence of a strong dose of the alan root (the euphorbiaceous *Alchornea floribunda*) was shown the skulls of his ancestors, and upon seeing these he would be able to communicate with the spirits of the dead.

For a long time the Bwiti was considered an ancestral cult and even today, the word Bwiti is translated as "dead" or "ancestor", however, as pointed out by Swiderski (1990-91, vol. II: 19), its correct etymology may come from "Mbouiti", the proper name of a group of Pygmies currently occupying a region between Gabon and Zaire. Originally, the practice of Bwiti included human sacrifice and ritual anthropophagy. This fact is remembered in the Bwitist myth about the discovery of the iboga and the sacrifice of the first woman who ingested it, Bandzioku. Soon, however, Bwiti rid itself of such cruel components and substituted these rituals by sacrificing chickens. The news about Bwitist human sacrifices dwindled and there are now a few remaining critics in some sectors of the Gabonese population, particularly the Catholics who still wage defamatory campaigns against the Bwitists.

To be sure, accusations of criminal sorcery and the so-called diabolic illusions produced by iboga have always been part of the history of Bwiti from its inception. Subsequently, the persecution carried out by the missionaries with the approval of the French colonial government was felt by the Bwitist communities particularly during the years 1920 to 1940. Despite the burning of the temples, persecution and killings of religious leaders the movement continued to grow.

Bwiti was and still is a thorn for the Catholic missions and actually Bwiti continues to gain new ground in the combat for religious territory. Having courageously survived years of constant persecution, Bwiti has been reformed and contributed to the awakening of a national and anti-colonial conscience and the birth of the new Gabon Republic. The first president of the newly formed Republic was an initiate in the Bwiti religion which contributed to its resurfacing and to its growing acceptance.

Today, the Bwiti religion is well accepted by a sector of the governing elite, since it is considered a popular religious movement which keeps and guarantees tribal values which are considered fundamental to the spirit of the new republic. Government officials,

members of the police and the army are Bwiti initiates and regularly leave the city to participate in the night ceremonies taking place in the neighboring jungle villages.

The Bwitists consider themselves Christians. That is, "the real Christians", which is of course a sore point among Catholic missionaries who consider the Bwitists bedevilled, dedicated to Satanic cults, while disregarding the promiscuity among the many Africans who frequent their parishes. Bwitist criticism of Christianity became deeper and more coherent when the expansionism practices replaced past persecution: "The Catholic church is a beautiful theory for Sunday, the iboga on the contrary is the practice of everyday living. In church, they speak of God, with iboga, you live God" (from words by Nengue Me Ndjoung Isidore, ecumenical Bwitist religious leader, presently Magistrate in the Libreville Supreme Court, quoted in Swiderski 1990-91, vol. I: 628). The iboga used by the Bwitists during the initiation rites and in their night communal "masses" substitutes the host of the Catholic mass, in practice and in concept, and this substitution is the fuel for the harsh contact between Catholics and Bwitists.¹³

Internal Structure

Bwiti is a complex religion with a rich mythology, the fruit of an intelligent and secular mix of the afro-tribal values and the catholic biblical figures, and an articulate theology which coherently unites animistic concepts and the characteristics of a Christian god. This syncretic mix is continually evolving; in practice, since its inception Bwiti has never ceased to renew itself, in its outward form and in its content. The free interpretation of the values expressed by the Bwiti movement has resulted in the creation of many sects, each with its own founding father and its own peculiar relationship with Christianity. The presence of one Bwitist leader with an acute critical mind or with a prophetic/static-like quality is sufficient to bring about a change in the community and a new religious current.

Each Bwitist sect has its own temple which is distinguished by the diverse decorations on the akun or central axis of the temple. The akun is covered with symbolic motifs associated with the axis mundi or cosmic tree. Regarding content, the Bwitist sects are different from one another, according to the degree to which Christian values have been absorbed. Among members of those sects leaning more toward tribal values, the following is a common proverb: "Baptism and Iboga are incompatible", but members of sects involved with Christianity it is not uncommon that they attend Sunday mass after having participated in the Bwitist mass Saturday night.

The Bwitist communities are "open", that is, their rites are not secret (the real secret is the inability to communicate the experience of initiation) which gives freedom of access to the non-initiates; this can be seen from its proselytism.

There is no rivalry among the different sects and there are individuals who have been initiated into two or more sects. The sects consist of groups of 10 to 50 people, usually

¹³ <http://ibogaine.mindvox.com/index.html?Articles/GS-Bwiti.htm~mainFrame>

living in the same village, where the Bwist temple is symbolically located in one of the most accessible streets. Surrounding the temple (abeñ), iboga bushes are cultivated and respected by all.

When no services are being held, the temple is used as a place for social gathering, a place for meeting and talking, a space which offers protection. The temple also serves as control center since from its interior one has visual control of the village. The abeñ is an ample hut, with wooden walls and roof, consisting of two principal rooms, the ceremonial room and the "sacristy". The entire structure resembles the structure of a human body, the pole supporting the roof is the spinal cord, the ceremonial room is the body, the "tomb" seen at the end of the ceremonial is similar to an altar, and the site for the musicians is considered its heart, the akun is its penis, the sacristy is its head and the two doors opening to the ceremonial room are its ears. In the interior of the sacristy a sort of niche built in the manner of a tabernacle contains the powdered root of the iboga and the ceremonial spoons used to administer it.

In each community members are divided between the simple initiates (bandzi) and the "officiating" members of different gradations. The term officiating is given following a learning period and superior initiations. During the ceremonies each officiating member has a precise role; at the very top of the community is the nima, the religious leader, followed by the yemba, an officiating member who comments on the rituals being followed during the ceremony. Then, follows the guardian of the temple and the tabernacle, then the dance director and the musicians among which the harpist has a special function. Together with these mostly male officiating members is found the woman responsible for female affairs (women are the majority in most Bwist communities). All the officiating members of the cult live like the rest of the village and are usually married (among the Fang, male polygamy is prevalent).¹⁴

The Initiation Rite

In all Bwiti sects, initiation is considered to be a direct contact between man and the Divine and this is triggered by the ingestion of iboga root in large quantities: 50-100 times the quantity used during the ordinary collective ngozé. The person to be initiated must ingest it in repeated small doses within a 8-14 hour time-span. The ingestion of the hallucinogen is preceded by a ritual offering to the forest and to its trees, and also by a confession pronounced before the presiding officiants. The confession concerns the entire past of the individual. According to the Fang people, sins of an antisocial nature are by far the worst. In the event of non-confession of sins, it is thought that the effect of iboga can trigger a "bad trip" with unpredictable consequences, leading to madness or - should the concealed sin be homicide - even to the death of the person being initiated. There is only one confession and it is made once in a lifetime, during the first part of the initiation.

The Bwistists know what we mean by a "bad trip". When this occurs in Bwiti (much rarer than in the Western world), it is never attributed to the drug. The individual is held

¹⁴ <http://ibogaine.mindvox.com/index.html?Articles/GS-Bwiti.htm~mainFrame>

responsible owing to impurity and evil thoughts. The special importance given to initiation was always stressed during the numerous conversations I had with the officiating priests and the rank and file initiates. According to the Bwitists, initiation is a moment that a person should remember for the rest of his life; an “experiential example” always to be borne in mind. When it appeared that I was unable to understand their answers to any questions I asked, from theological to simply ethnographical questions, they explained to me paternally and respectfully that this was because I had not been initiated and that only through initiation might one understand and find answers to all of the different questions.

According to the Bwitists, white people have more chances to get in touch with the divine than do blacks. Nobody doubted this, but me. I forced myself to accept this convention, but regarded it as contradictory: as an underestimation of themselves, or an unjustified estimation of whites. The phrase that always ended these pretentious discussions was invariably: “Only through initiation will you clearly understand your position in this world and your gift of being white. Good and Evil are everywhere, among the White, the Black and Red people, but you have better chances than we have, because you are closer to God; for this reason we must respect you”.¹⁵

The cycle of rituals of all Bwitist sects is based on a religious calendar similar to the Catholic one. The main difference being that the Bwitist rites are conducted at night, as are most rituals connected with the use of hallucinogens. The members of the community get together at night from Saturday to Sunday, and at Christmas and Easter time, at which times they partake of the iboga (ngozé) as communion.

Apart from those times when they all get together, the individual initiation rite is experienced by those desiring to join the community and it consists primarily of the ingestion of a large dose of iboga, much larger than when taken during the normal ngozé. This factor takes the initiate to an altered state of consciousness, to static-mystical states, to a direct contact with the sacred. The occurrence of such initiation leads us to consider Bwiti as a complete psychedelic religion, that is, having an initiating impact which results in great alteration of the individual’s consciousness. Among the Bwitist the moment of initiation is the moment of greatest illumination and must be taken into consideration for the rest of the initiates’ life: in each moment of crisis, the Bwitist goes back to the time of initiation, thus putting himself at the best strategic point of observation.

At the initiation rite, the ingestion of the hallucinogen is preceded by an offering to the jungle and its trees, and a confession in front of the officiating members and a ritual bath. The confession covers all past life. The omission of sins may result in a “bad trip” with disastrous consequences and even permanent madness, and should the omitted sin be related to homicide, the death of the initiate will ensue.

The effects of the massive dose of iboga (a few hectograms of the powdered root) which the initiate must ingest little by little during 7 to 12 hours, last three consecutive days and nights. During this time the initiate will remain lying down on the floor of the sacristy,

¹⁵ <http://ibogaine.mindvox.com/index.html?Articles/GS-AdamEveIboga.htm~mainFrame>

assisted by a couple considered as the "father" and "mother" of the initiation process. Besides the "parents" other members of the community are present, they will accompany their future brother in his long journey to the sounds of the harp or in silence. Any of the present members may ingest iboga during these nights: a companion during the "great journey" also experiencing the effects. The initiate's consciousness will undergo changes more and more intense, becoming more separated from his surrounding reality until he loses touch. At this time, usually during the third night, an officiating member will pinch the initiate with a thorn to ensure his separateness with exterior world. If he does not react, it is understood that he is undergoing the climax of the experience. The moment is acknowledged in western terminology using the term beatific vision or *epopteia*. This moment is referred to by all Bwitists so "baptized" as going to the root of life itself and direct dialogue with god.

During the vision, the initiate undertakes long journeys to the land of the dead, who serve as mediators with the divine. He may also encounter his ancestors or other persons known to him. Others find celestial figures during their journey, the Virgin Mary, Jesus Christ, St. Peter, shedding their divine light. Others have direct encounters with God. The hallucinations experienced during the trip are full of profound symbolic meaning, personal as well as cultural; the world of the jungle with its trees, plants, and animals acts as an experimental and imaginative substrate for the visions. Always during the vision the spirits of the dead, Jesus Christ or any other entity tells the initiate his new name, the initiatory name (*nkombo*), a name which is added to the initiate's proper names. As an ecstatic religion, the Bwiti relies on the hallucinogen and the subsequent personal psychic experience to duly introduce its doctrine. It is the initiatory experience which brings about an act of faith, an act which follows the moment of illumination; this act of faith in Christianity always must precede any show of conviction: "*il faut voir pour croire*" ("one must see to believe") is a common proverb in all Bwitist sects, in polemic contrast to "it is enough to believe" as the Catholic mission preach. Bwiti is a "revealing" religion, that is, it constantly reveals: it reveals itself to the individual during each initiation.

The great majority of the founders of Bwitist sects were inspired to start a new sect during personal experiences with iboga, "by revelation". On the other hand, there is no shortage among the Bwitists of prophetic currents of exquisite ecstatic character. Such is the case of Ekan Ngoua, founder of the sect Essum David, who was considered by all a mystic; he died during the 1960's and has followers among the many communities proliferating around his religious discourses: "I have seen God, for the iboga is God, I am a prophet. When I was initiated, I was not seeking iboga, it was not something I willed, it was God itself who took over me. I am a prophet, I know what comes from afar, I know what will happen tomorrow. When God talks to me, when the Spirits talk to me, they tell me what must be done with iboga. (...) I must unify all Bwitist sects and establish only one iboga religion" (cf. Swiderski 1990-91, vol. I: 465-6).

Following the three days and nights of the initiation, the initiate wakes up to what he considers a new life. Some times energetic intervention on the part of the officiating member is necessary to wake up the initiate and at times the loss of consciousness may continue into the following days. This is interpreted as a positive sign since if is taken to

be contact with the divine. Only on rare occasions has the initiate failed to wake up and died. As in the rare instance of a "bad trip", iboga is not considered the cause, it is the individual who is responsible, because of his impurity and bad thoughts.

Upon awakening, the individual relates his experience to the community, and others have the opportunity to corroborate their visions. After this, he is considered a bandzi in every regard. A long sleep which may last days concludes the rite of initiation. This iboga baptism may be experienced at any age, as is the Catholic baptism. Currently, in some sects there is a tendency to initiate relatives, especially their children, from ages 8 to 10, which is followed by a second initiation as adults. The great freedom of interpretation of the Bwiti canon allows for big changes in the modalities of the initiation. In some sects the initiates are free to undertake further strong experiences with iboga, but these are not to be undertaken without the assistance of an officiating member.¹⁶

Initiation is considered to be a unique moment in an individual's life. Further initiatory moments are necessary for the acquisition of higher officiant's ranks. The effect of this heavy dose of iboga lasts three whole nights and days. During this time, the initiate remains stretched out on the ground inside the vestry of the temple and is overseen by an initiated couple - a man and a woman - considered as the "mother" and the "father" of initiation. The person being initiated will have to respect and regard them as his/her second parents for the rest of his/her life. I felt a shiver through my body when, led by an old Fang, I entered the vestry of a temple belonging to the Dissumba sect, during an initiatory rite. Two young women were being initiated. They were sitting on the floor and looked dazed and completely inebriated. Beside them, their two pairs of "parents" were meekly singing a sweet song accompanied by the sacred harp. It was their third and last day of initiation. The following morning, they would "awaken" from the long trip; according to the Bwiti who are baptized in this manner (initiation is also called "iboga baptism") this trip brings you to the roots of life and to a direct dialogue with God.

Towards the end of the initiation ceremony, the initiate-to-be will have to reveal to the kombos the content of his visions; this is to verify whether the person "has seen." One who has seen can be considered bandzi in every respect. Through initiation the individual enters into a relationship with the divinity and finally finds his place in this world. Then he is ready to go on with his renewed life, rejoicing with the other members of the community. Every time the initiated again takes the holy plant, in smaller quantities, he will recite the prayer of communion together with other members: "Eboga, tree of life, the tree that reveals, that drives the shadows out of our souls and which illuminates us with its holy light in order to lead us to eternal life. It is with its grace and its holy light that we give glory to God in the Higher Heavens and to He only the way of the Eboga, our Savior." Then, in the end, individually: "I thank Eboga for coming to me; strengthen my heart with your celestial fire, you oh Lord, Lord Eternal." (quoted in Swiderski 1971).¹⁷

¹⁶ <http://ibogaine.mindvox.com/index.html?Articles/GS-Bwiti.htm~mainFrame>

¹⁷ <http://ibogaine.mindvox.com/index.html?Articles/GS-AdamEveIboga.htm~mainFrame>

The Night Ceremonies

The ngoze, or customary night ceremonies represent the Bwitist mass; these are times of collective religious fervor and joy and feasting, they are prepared for communion with iboga and for a close understanding among all participants. It is also a time for loving each other, and this leads to a collective feeling during the final portion of the ceremony in the early morning hours, the entire community experiences a collective flow of emotions resulting in what the Bwitists call nlem myore ("one heart only"), that is, a state in which "the people understand one another," and they become as one. Fernandez (1965) has termed it "a state of symbolic consensus." It is a mental state of good will towards others, which is typical of a certain phase of the psychedelic experience, the final part of the "rebirth" phase. It is interesting to note that the Bwitists value it and recognize it; an indicator of the transcultural aspects of some of the effects of the hallucinogens.

The ngoze take place all year on Saturday night through Sunday morning. Some communities prefer to meet every month, two months, or three months, for three consecutive nights. At Christmas and Easter, considered the two great Bwitist festivities, the ceremonies are performed in ritual cycles of four or more days.

At the beginning of the ceremony, around 8 p.m., the participants ingest the iboga communion: they kneel and each receives a dose delivered by an officiating member directly to the mouth in a spoon. As with the Christian host, iboga is not to be touched with the hands. To facilitate deglutination, a small amount of water may be drunk. The amount of the dose varies according to the individual and has been determined by the officiating member distributing it. Throughout the night and until a predetermined hour, anyone may request additional iboga with the approval of the officiating members.

The Bwitists are well aware of the importance of the dosification of the hallucinogen to bring about the desired positive results for the collective experience. For example, they know that with strong doses it is more likely the individuals will lose their sense of reality, which is contrary to the spirit of the ngoze. Therefore, the custody and distribution of iboga is in the able hands of the officiating group.

Throughout the night the participants dance, play and sing. They dress in different colors, white, blue, yellow, according to their particular sect or the day of the week. With their faces made up with white kaolin, they fall under the effects of iboga and dance long and exhaustive dances of the most pure African tribal spirit.

The dances are guided by precise choreographic schemes. The most common dance is a long line of people who move in the interior of the man-temple; each person repeats the movement of the person in front and this movement originates with the first man and moves down the line from first to last. All this to the rhythm of several musical instruments: the musical bow, batons and other percussion instruments, and during the second part of the night, the sacred harp (ngombi). Once in a while they rest, drink, laugh and make merry.

The drinks offered by the participants at the beginning of the ceremony are distributed with a certain ritualism during the rest periods. Besides orangeade, and coca cola, preferred by the women, there is also beer, palm wine, and several battles of strong liquor widely consumed by the men. The presence of alcohol at the ngoze, a masked presence following its ritual distribution, is not new among cults using hallucinogens, but it contrasts with the general tendency which sees it as incompatible with the ingestion of alcohol. When questioned about this, the Bwitists response was that alcohol allowed them to dance for long periods, as many of the dances are over one hour long as confirmed by the watch of one of the officiating members. Some also said that alcohol was used as a physical enhancer, while the mind was dominated solely by the effects of iboga.

Outside the cult, the Bwitists do not drink alcohol, so that its presence at the ceremonies is not due to a chronic social use. During the ngoze I saw many times the interchange and consumption of cola-nuts which have stimulant properties (they contain caffeine) so it may be that the Bwitists use alcohol as a physical stimulant as well. Some sects, however, do not allow alcohol during the rituals and the new ecumenical movement presently developing within the Bwiti religion, excludes alcohol from the rituals of all sects.

The different cycles of music and dancing contain symbolic and precise meanings associated with Bwitist mythology. During the night ceremony there are two distinct phases: the first one lasts from sundown to midnight, it is characterized by motifs illustrating the creation of the world, and the birth of Adam and Christ. The second phase lasts from midnight till dawn, and is influenced by the imagery of death and destruction, the death of Christ, the expulsion from the Garden of Eden, the universal flood, the death of the night. Towards the end of this final part, the whole community enters a state of total participation, the nlem myore, "only one heart."

With the coming of dawn, the ceremony will end with a collective meal.¹⁸

Bwitist Mythology

Bwitist mythology consists primarily of a complex theogony and mythology dealing with the origin of Iboga and the Bwiti know it as "The History al Muma." Despite the evidence of its primary structure, the mythology is subject to many variations, as evidenced by the differences among the sects and the diverse ethnic groups. This is also seen in the various interpretations of the myth that have arisen during the last century resulting in the creation or reform of the Bwitist movements (cf. versions taken from Fernandez 1972; 1982 and Swiderski 1980; 1990-91).

The Bwitist do not have written texts for dissemination of their beliefs, except for some "catechisms" which are difficult to read but may be considered as a timid attempt. Given the new current phase of internal coordination and union of the many expressions of the Bwiti religion, it is anticipated that soon there will be Bwitist bibles and catechisms where the rich mythological patrimony of this religion will be recorded.

¹⁸ <http://ibogaine.mindvox.com/index.html?Articles/GS-Bwiti.htm~mainFrame>

At the vertices of the Bwitist genealogic theogony is the one god, Nzame Mebeghe, a god similar to the Christian god, yet less angry and vengeful (there is no Bwitist hell), but which marks Bwitim as a monotheistic religion. In the beginning, Nzame created an egg from which triplets were born, Eyene, None and Gningone, which more or less correspond to the Sacred Trinity, the Father, Son and Holy Spirit. This last one is substituted by a feminine figure, Gningone, considered the mother of the Black race; in some sects this figure takes the place of the Virgin Mary. Among the Fang, as well as among other African groups everything related to mother earth, to the feminine principle, and fecundity retains its primary value and this has brought about a special status for the Catholic Marian cult.

To be sure, the Bwitist interpretation makes reference to the Bible, both the Old and the New Testament and does so in depth. For example, the original sin of Adam and Eve, Obola and Biome, considered twins, is seen as an incestuous act; the Tree of Good and Evil, or the tree of knowledge, is identified as the iboga; Abel's remains become the remains of the ancestors (bieri); the Universal Flood becomes the Ozambogha, the Fang's difficult journey from Cameroon to Gabon, an event historically placed at the beginning of the century.

The "History of Muma," the history of the discovery of iboga and the origin of the Bwiti has several different versions not only among the Fang people, but also among the Apindgi, the Mitsogho, and the Eshira. In spite of the fact that the Bwitist trace back the origin of the knowledge of iboga to the Pygmies, and though some Pygmy tribes are said to still use iboga, not much is known about the iboga rituals in this archaic group. Among the Fang, the myth goes as follows.

Bandzioku, usually of pygmy ancestry, lost her husband during the crop of fruit in the forest. He fell from a tree and death surprised him. His body remained hidden in the forest and Bandzioku, after looking in vain for her husband's body, was inconsolable and returned to the village and as prescribed by tribal rule, she married her brother in law. One day she went fishing and built a net to catch Siluros, but through a hole at the bottom instead of Siluros, human bones came up. They were the bones of her first husband. After she had deposited the bones on the shore of the river, an animal came and took them away. Bandzioku followed the animal until they came to the Kakonangondacave. From the interior of the cave the voices of the spirits of the dead called out to her, "Bandzioku, do you want to see us?", . . . "yes" she answered. Then the spirits fed her the root of the plant growing in a corner of the entrance of the cave: it was the iboga. After she ate of it Bandzioku could see and talk to the spirits of the dead, and among them was the spirit of her first husband. Before departing, the spirits asked her for an offering (okandzo), she gave them what provisions she had and returned to the village.

The following day she got up early, gathered food supplies, and went back to the cave to make offerings, continuing to do so for several days. Her second husband, thinking she had a lover, decided to follow her without being seen. When she came up to the cave, the spirits hollered "Muma, Muma" (which indicates the presence of a non-initiate) and asked

her who had she brought. Bandzioku had thought she was alone, she turned and saw her husband. He was upset and asked her whom she was talking to; she pointed to the iboga plant and gave him of the root to eat. Thus, the husband too was able to see and communicate with the spirits, including the spirit of his dead brother. At that moment, the spirits asked the man for the okandzo,, the obligatory offering; he gave them what little he had. The spirits rejected the offering and he had no other choice but to offer his wife (which was what the spirits really wanted). In this manner was how Bandzioku was sacrificed and strangled. The man took the iboga back to the village and built the first Bwist temple. The final human sacrifice, mentioned in every version, comes from the cultural environment from which the first Bwiti appeared and is associated with the old cult to the ancestors. Other aspects of this cult must be seen as coming from a more archaic tribal mythology and having undergone stratified re-interpretations throughout the times.¹⁹

Contemporary use – by Sasha Shulgin from Thikal

Here is an example of a most remarkable material that has allowed people to have some rather complex and dramatic experiences. Any effort to present a fair overview of its action, through a selection of individual responses in the "extension and commentary" format would fail, as it would ignore the impact of the set and setting on the subject. Here I will mention a few of these different sets, and a leading author to search out more detail.

There is a well studied history of the use of the iboga plant in the religious rituals in Gabon and its neighboring countries, from the early part of the 19th century. The Buiti religion calls for the use of the root bark of *Tabernanthe iboga* as a sacrament in its religion, and the reports of its psychopharmacological effectiveness reflects these needs (see Samorini).

Another area of reports that can be called upon reflect the exploration of the isolate from this plant, or the isolated active component ibogaine itself, in the study of its use in connection with psychotherapy. Here the reports reflect the physician/patient interaction with an emphasis on early memory and the reliving of past experiences (see Naranjo). In clinical studies such as these, a typical dose would be four hundred milligrams of the chemical, twice this weight of the crude isolate, and perhaps ten times again this weight again if the actual root bark is used.

Yet another source of reports is to be found in some studies that are exploring ibogaine as a treatment for heroin dependency (see De Rienzo and Beal). This end-goal of searching for evidence of addiction confrontation and addiction control certainly can color any published reports in its own way. Here, its the chemical ibogaine only that is used, and typical dosages are at or above 1000 milligrams.

There is no question but that ibogaine is a rough trip, physically as well as mentally. Here is one report that shows the body aspects of its use.

¹⁹ <http://ibogaine.mindvox.com/index.html?Articles/GS-Bwiti.htm~mainFrame>

(with 200 mg, orally) "Subjectively, the most unpleasant symptoms were the anxiety, the extreme apprehension, and the unfamiliar mood associated with visual and bodily hallucinations. The visual hallucinations appeared only in the dark and consisted of blue disks dancing up and down the walls. Dysesthesia of the extremities, a feeling of light-weightedness, and hyperacusis were other symptoms noted. Autonomic signs, such as dryness of the mouth, increased perspiration, slight pupillary dilation, and increase in pulse rate, as well as extrapyramidal syndromes (fine tremors, slight ataxia, enhanced tendon reflexes and clonus) were also present. The peak effect was reached at about 2 hours after swallowing the drug; it subsided gradually, leaving as a residue complete insomnia. No undesirable after-effects, such as exhaustion or depression occurred."

As was pointed out in a pharmacological review (see Popik et al.), as the hallucinogenic dose appears to be several times higher than the stimulant dose, the user must endure intense and unpleasant central stimulation in order to experience the hallucinogenic effects.

But as fascinating as the pharmacology of ibogaine, it is the chemistry of this alkaloid that is overwhelmingly awesome. The presence of four isomers was mentioned in the chemistry section above, but this fact was not appreciated until the 1960's and even then, a couple of troublesome errors were made that confused the absolute configuration picture quite badly. The story has been accurately told in a (almost) hundred page review chapter (see Cordell) which is a "must" for anyone who wants to risk understanding some pretty far out chemistry. Oh my, there are a lot of closely related alkaloids. As to indolic alkaloids in general, there are well over two thousand of them, with a few dozen being added every year. And most of these are kosher tryptamines in that they carry the tryptamine structural skeleton. And, in turn, a great number of the tryptamine alkaloids are found in the remarkable family Apocynaceae, which is the ultimate treasure-trove of alkaloids, probably the richest single source of pharmacologically active compounds in the entire plant kingdom. It is made up, largely, of tropical shrubs of the dog bane group, which almost always ooze out a sticky sap when you break off a twig, which have showy flowers, and which have the reputation of being very poisonous.²⁰

Tabernanthe iboga used by Animals

Boars, porcupines, gorillas, and mandrills have been reported eating iboga roots in Gabon and the Congo. A Mitsogho shaman (nganga) in Gabon described to Giorgio Samorini the use of iboga roots by mandrills in dominance displays:

When a male mandrill must engage in combat with another, either to establish his claim to a female or to climb a rung of the hierarchical ladder, he does not begin the fight without forethought. Instead, he first finds and digs up an iboga bush, eating its root; next, he waits for its effects to hit him full force (which can take from one to two hours); and only then does he approach and attack the other male he wants to engage in battle. The fact that the mandrill waits like this to feel the full effect of the drug before attacking

²⁰ http://www.erowid.org/library/books_online/tihkal/tihkal25.shtml

demonstrates a high level of premeditation and awareness of what he is doing. (Samorini, pp. 57 ff.)

Interesting as this hypothesis is, another explanation is possible. These mandrills may have accidentally intoxicated themselves. Upon feeling the powerful effects of iboga, they may have become disinhibited like a belligerent drunk in a bar.²¹

Chemical Properties and Structure

Ibogaine HCL

Ibogaine is a hallucinogenic chemical that can cause profound and long-lasting hallucinations. In its pure form, it is a white, bitter-tasting powder. It occurs naturally in a number of plants native to West Central Africa, including *Tabernanthe iboga* and *Voacanga Africana*. It is a strong, long-lasting psychedelic used traditionally in a coming of age ritual but also known for its modern use in treating opiate addiction.²² It is a naturally occurring indole alkaloid in the tryptamine family. Ibogaine is generally extracted from plant material, but may also be synthesized.²³

NAME : Ibogaine

CHEMICAL NAME : 12-Methoxyibogamine

CHEMICAL FORMULA C₂₀H₂₆N₂O

MOLECULAR WEIGHT 310.44

MELTING POINT 152-153° (Prismatic needles from abs ethanol)

QuickTime™ and a
decompressor
are needed to see this picture.

24

²¹ http://www.erowid.org/plants/iboga/iboga_bits.shtml

²² <http://www.erowid.org/chemicals/ibogaine/ibogaine.shtml>

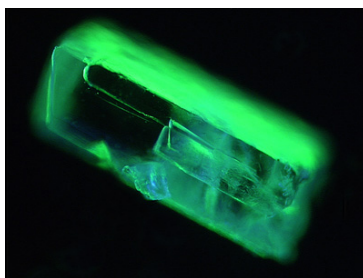
²³ http://www.erowid.org/chemicals/ibogaine/ibogaine_basics.shtml

²⁴ http://www.erowid.org/chemicals/ibogaine/ibogaine_chemistry.shtml

Pure crystalline ibogaine hydrochloride is the most standardized formulation of ibogaine as Ibogaine and related indole compounds are susceptible to oxidation when exposed to oxygen as opposed to their salt form, which is stable. Ibogaine hydrochloride manufactured within the chemical industry may vary from 95% to 98% purity. Non-pharmaceutical ibogaine hydrochloride manufactured in small batches may vary, depending on batch, between 85% - 98% ibogaine.

Regarding purity, according to the understanding of one source: "Ibogaine HCl (not ibogaine base) is rather stable over long periods of time if maintained at room or lower temperatures and certainly in inert gas. Most manufacturers provide a three year shelf life for ibogaine HCl at room temp. My perception is you don't lose much over a ten year period if the drug was properly manufactured. However, if the manufacturing is contaminated then it may degrade rapidly." ²⁵

Ibogaine HCl UV Microphotograph - A crystal of ibogaine hydrochloride is photographed using a microscope and ultra violet light.



© Marco Resinovic

Although ibogaine was first isolated and identified in 1901, (19-21,46), the structure of this and related alkaloids (Fig. 1) were first established by Taylor in 1957 (47) [see also Taylor (12,13)]. Total synthesis from nicotinamide was reported using a 13- (48) or 14-step (49) sequence. The ¹³C NMR spectra of several iboga alkaloids were published in 1976 (50). The synthesis of tritiated ibogaine was recently reported (51,52).

Ibogaine (mol. wt. 310.44) has a melting point of 153° at 0.01 mm Hg and a pKa of 8.1 in 80% methylcellosolve. The absorption maxima in methanol are 226 (log e 4.39) and 296 (log e 3.93) nm. Ibogaine crystallizes from alcoholic solutions into small, reddish prismatic needles; it is levorotatory [α]_D -53° (in 95% ethanol) and is soluble in ethanol, methanol, chloroform and acetone, but insoluble in water. Ibogaine hydrochloride (freezing point 299°C, [α]_D -63° (ethanol), [α]_D -49° (H₂O)) is soluble in water, ethanol and methanol, is slightly soluble in acetone and chloroform, and is practically insoluble in ether (53). Ibogaine is heat- and light-sensitive (54) and can spontaneously oxidize in solution, giving iboluteine and ibochine (16,34). Alkaloids structurally related to ibogaine include tabernanthine, ibogamine, iboxigaine, gabonine, iboquine, kisanine and ibolutenine. Structural similarities between ibogaine and other indole alkaloid

²⁵ <http://www.myeboga.com/ibogaine.html>

hallucinogens have also been reported (55). The synthesis of several ibogaine derivatives has recently been published by Repke and coworkers (56).²⁶

The ibogaine thus is a perfectly crystallized substance with a slightly amber color; the crystals are clear-cut, several millimeters in length, they are long transparent prisms with a rectangular base with inclined facets at the end (straight prism orthorhombic system).

Ibogaine is almost completely insoluble in water, very soluble in alcohol, especially when warm. At a temperature of 15°C, 1 g will dissolve in 28 g of 95° alcohol, and, on boiling, in 4 g of alcohol. It is also very soluble in ether, chloroform, benzene, and most solvents.

It melts at a temperature of 152°C to a clear yellow liquid; it has a very particular stryptic taste, somewhat similar to that of cocaine.

It rotates plane-polarized light to the left. The rotation in alcohol solution (95° alcohol) was found to be: $\alpha_D^{20} = -48^\circ 32'$. This determination was performed with a Laurent polarimeter in a 20 cm tube at a temperature of 15°C. The rotation found was $1^\circ 56'$ per gram of alkaloid in solution in 50 cc of alcohol.

Ibogaine is readily oxidized in air, turning a brownish yellow and appearing to change into an uncrystallizable compound. Its saline solutions are turned to a white precipitate by Mayer's reagent, by tannin (an alcohol-soluble precipitate), by a sublimate and by phosphoantimonic acid. Iodinated potassium iodide gives a brownish red precipitate; bismuth-potassium double iodide gives a golden yellow precipitate.

With sulfuric, nitric, acetic, benzoic acids, ibogaine forms salts that are neutral to litmus paper but uncrystallizable. On the contrary, the hydrochloride crystallizes perfectly, especially in acid solution.²⁷

his web site is based on the use of ibogaine which is the principle alkaloid of the iboga plant, *tabernanthe iboga*. Ibogaine hydrochloride is considered the safest form of eboga as it is easily calibrated unlike its other forms where there is uncertainty in the percentage of ibogaine present.

Ibogaine C₂₀H₂₆N₂O is an indole alkaloid (indole: containing the indole nucleus, which is a benzene ring fused to a pyrrole ring, alkaloid: a cyclic organic compound that contains nitrogen in a negative oxidation state). It is derived from *Tabernanthe iboga*, a shrub indigenous to Central-West Africa. The iboga shrub, a member of the family Apocynaceae (order Contortae), is typically found in the undergrowth of tropical forests. Ibogaine is one of at least 12 alkaloids found in this plant.

²⁶ <http://www.ibogaine.org/alkaloids.html>

²⁷ <http://www.ibogaine.org/dybowski.html>

Synthesis

There have been three total syntheses of ibogaine reported in the chemical literature. The first of these was a thirteen-step process published about 30 years ago. The chemistry lab can serve a fine function for both isolation and purification of ibogaine from plant sources, but in the real world, there is no practical way to start from a bottle of nicotinic acid and actually prepare useful amounts. The parent ring system contains two chiral centers, neither of which is amenable to easy manipulation. Because of these two separate and largely inaccessible chiral centers there are, in theory, four distinct isomers of ibogaine which are difficult to resolve. When the term "synthetic" is used in regard to ibogaine in the scientific journals, it usually applies to the resynthesis of the parent alkaloid from the demethylated metabolite. For reference purposes, here are the fingerprint number from the infrared spectra: For the free base: IR (in cm⁻¹): 741, 799, 830, 1037, 1111, 1148; mp 152-153 °C. For the hydrochloride salt: IR (in cm⁻¹): 638, 810, 832, 925, 1031, 1149; mp 299-300 °C (dec).²⁸

18-Methoxycoronaridine²⁹

Synthetic iboga alkaloid congener

The ibogaine research team at Albany Medical College has developed a synthetic iboga alkaloid congener, 18-methoxycoronaridine (*18-MC*). Animal research shows that 18-MC shares ibogaine's anti-addictive properties, possibly *without* ibogaine's hallucinogenic effects, possibly not.

Further Articles / Information can be found in the "Further Literature: Articles" Section of this File.

Biology: Oterh forms of Ibogaine Available

Ibogaine is often referred to in the following forms:

1. Botanical product of some sort of different *Tabernaemontana* species or *V. Africana*.
2. Botanical product root bark of *T. iboga* - usually contains between 1% and 4% alkaloid content of which 50% is ibogaine.
3. Total root of *T. iboga* - "a worthless product not used anywhere in the world."
4. Total alkaloid extracts of *T. iboga* - often called "Indra extract".
5. Ibogaine hydrochloride - ibogaine..³⁰

²⁸ http://www.erowid.org/library/books_online/tihkal/tihkal25.shtml

²⁹ <http://www.ibogaine.org/18mcindex.html>

³⁰ <http://www.myeboga.com/ibogaine.html>

Tabernanthe iboga

In der getrockneten Wurzelrinde können insgesamt bis zu 6% monoterpene Indolalkaloide enthalten sein. Wenn die ganze Wurzel verarbeitet wird kommt man auf einen Alkaloidgehalt von 1%. Drei Gruppen gibt es: Ibogaintyp, Voacangintyp und Voaphyllintyp.

In alten Schriften wird die Einnahme von Ibogawurzel als eine Reise durch den Wald beschrieben. Medizinisch wird in Westafrika Iboga vor allem als Stimulanz, Tonikum, Aphrodisiakum und bei Fieber und Bluthochdruck eingesetzt. Alraune

Das Hauptalkaloid der Pflanze ist [Ibogain](#),^(#7, #13, #32, #45) ein Indolalkaloid.^(#11, #13, #32, #45) Es gibt noch 11 weitere, andere Indolalkaloide in der Pflanze.^(#11, #13, #32, #45) Die wirksamen Indolalkaloide befinden sich in der Wurzel^(#11, #13, #32, #45, #47) und in der Wurzelrinde.^(#11, #31, #47) Der Alkaloidgehalt der Wurzeln ist am größten.^(#32) Die Wurzeln und die Wurzelrinde können bis zu 6% [Ibogain](#) enthalten. Frisch ist die Droge stärker wirksam.^(#47) Die Pflanze enthält auch die Indolalkalide Tabernanthin, Ibogamin und Voacangin, die lt. Bert et al. (1988) in Tierexperimenten die gleiche Wirkung wie [Ibogain](#) zeigten, und damit vermutlich die Gesamtwirkung der Pflanze in Zusammenhang mit dem Hauptalkaloid [Ibogain](#) ergeben.³¹

T. Iboga is the plant form of iboga which contains most Ibogaine, namely the rootbark. In Africa, Tabernanthe iboga is consumed as a stimulant by chewing the rootbark. In Bwiti religious ceremonies, the rootbark is pulverized and swallowed with water. In the west treatment for chemical dependence is normally carried out using ibogaine hydrochloride, usually referred to as ibogaine.

A more thorough study of the fruit shows that the lower part of the ovary is bilocular and that the upper part is unilocular and has a parietal placentation, as has been observed in some Melodinus plants where there is a single fruit, not formed by two distinct berries: this is how the fruit in Iboga is formed. It therefore appears that we have reason to believe that Tabernanthe plants are more directly related to the Arduineae, and that this is the series in which they should definitively be classified.

The active ingredient of Iboga does not seem to occur only in the bark, as Baillon indicates, but throughout the wood and principally in the roots that are used particularly by the natives. These roots are what we studied.

Iboga owes its properties to a particular alkaloid that we have been able to isolate and to which we have given the name of ibogaine.

Since this alkaloid is not found free in the root, we extracted it by the following process: milk of lime is added to the finely powdered root; the mixture is dried and then stirred

³¹ <http://catbull.com/alamut/Lexikon/Pflanzen/Tabernanthe%20iboga.htm>

with ether. The ether is separated in turn and stirred with water acidified to 1:10 with sulfuric acid which takes up the alkaloids in solution and converts them to sulfate. This treatment is repeated several times to extract the Iboga completely, then the acid liquids are combined and treated with caustic soda in solution that precipitates the crude alkaloids. These are an amorphous alkaloid mixture, whose properties we shall return to later, and a clearly crystallized alkaloid. Since the latter is far less soluble in alcohol than the former, it is separated by successive purifications in alcohol.

By means of this process, we were able to extract from 6 to 10 g/kg of ibogaine from Iboga, depending on the samples we tested. As we can see, this is a relatively high yield.

Ibogaine is also available in a total alkaloid extract (often loosely called "Indra extract") of the *Tabernanthe iboga* plant, which also contains all the other iboga alkaloids. Many prefer to use eboga in this form or in the form of the (botanical product) root bark due to the difference in feel of the experience, i.e., the onset is slower and the journey smoother. Proponents believe this is due to the synergistic effect of the other alkaloids present. However there is an inherent danger in this approach as precise calibration of the quantity of ibogaine present is difficult to determine.

Preparing Root bark The Indra extract contains a reported 15% total alkaloids by weight of which 8% is ibogaine. As the other alkaloids in the Indra product are active, this material is viewed as having a 15% potency. It is darker and deeper in colour to ibogaine and comes as a brittle lump.

"The name "Indra extract" actually refers to a particular stock of about 44kg of an iboga extract manufactured by an unnamed European industrial manufacturer in 1981. It is unclear whether the extracts sold as "Indra extract" are actually from the original stock, or whether any of that stock is even viable or in existence. This stock was later purchased by Carl Waltenburg, who distributed it under the name "Indra extract". Waltenburg used this extract to treat heroin addicts in Christiana, Denmark, a squatter village where heroin addiction was widespread in 1982. Indra extract was offered for sale over the internet until 2006, when the Indra web presence disappeared. It is unclear whether the extracts sold as "Indra extract" are actually from Waltenburg's original stock, or whether any of that stock is even viable or in existence. Ibogaine and related indole compounds are susceptible to oxidation when exposed to oxygen as opposed to their salt form which is stable. The exact methods and quality of the original Indra extraction was never documented, so the real composition of the product remains uncertain." - source wikipedia.

While the Indra extract has a significant concentration of ibogaine, (3) total root is "a worthless product not used anywhere in the world." It contains virtually no ibogaine and is 90%+ wood, the rest being root bark (as little as 3%). (4) Botanical product root bark itself usually contains between 1% and 4% alkaloid content - sometimes less, sometimes more - of which 50% is ibogaine.³²

³² <http://www.myeboga.com/ibogaine.html>

Voacanga Africana

Voacanga africana is a small tropical tree with yellow or white flowers, which is closely related to both *Tabernanthe* and *Tabernaemontana* (Iboga). The bark and seeds of the tree contain iboga alkaloids and have been used in Western Africa as a poison, stimulant, aphrodisiac and psychedelic.³³

Taxonomy, phytochemistry, ethnobotany and pharmacology

This is a review of the *Voacanga* genus, which is closely related to both *Tabernanthe* and *Tabernaemontana*. Many species from this genus also produce complex indole alkaloids of the same type and structure as these other two genera, some being source material for the isolation and semi-synthesis of medically used alkaloids.

As with the *Tabernaemontana* there has been a lot of confusion about the species within this genus, many also having various synonyms and type specimens. It is a mostly African and Asian genus, with only one species recorded from nth Qld, *Voacanga grandifolia*, for which *V. papuana* is a synonym. This species is recorded from New Guinea, Indonesia and the Phillipines as well. It is described as not only the most widespread Asian species, but also one of the most variable.

There is an extended discussion of the alkaloids found in this genus, including their biogenesis and pharmacology.

In one species (*V. africana*) the alkaloid content has been reported as 5-10% in root bark, 4-5% in trunk bark, 0.3-0.45% in leaves and 1.5% in seeds. From a specimen of *V. grandifolia* in India some indication of how the alkaloid content varied over the year was recorded, for the root and trunk bark, mar was the minimum, going up to secondary maximum in jun, then falling again in jul and peaking in nov. The leaves and fruit recorded a similar pattern, though the age of the individual leaves affected the alkaloid content. The types of alkaloids recorded was very similar to those found in *Tabernanthe* and *Tabernaemontana*. For *V. grandifolia* the following results of alkaloid analysis are given...

Voacanga grandifolia; synonyms *V. papuana*

From a cultivated specimen in India;

bark yielded 0.035% (-)-Voacangine, 0.0012% Voacamine, 0.02% Vobtusine, 0.0015% 18-oxovobtusine.

leaves yielded 0.03% Vobtusine, 0.003% 2-deoxyvobtusine, 0.0002% 18-oxovobtusine, amataine.

fruit yielded 0.004% (+)-Akuammidine; 0.0015% Tabersonine, 0.01% Vobtusine.

From New Guinea (as *V. papuana*);

³³ http://www.erowid.org/plants/voacanga_africana/voacanga_africana.shtml

root bark yielded 0.14% Voacangine, 0.02% Voacamine, 0.44% Vobtusine.
bark yielded 1.74% alkaloid, @ 0.2% Voacamine, 0.006% Vobtusine.
leaves yielded 0.0009% Voacamine, 0.65% Vobtusine.
fruit yielded Voacangine, traces of Voacamine, 0.52% Vobtusine.

Most species have complex mixtures of alkaloids in the leaves, and not so complex mixtures in the bark and root bark, with Voacangine, Vobtusine and Voacamine types predominating. The seeds of many species however display amazing uniformity of alkaloid type across most of the genus, with (-)-Tabersonine comprising almost the whole alkaloid content, sometimes as high as 3.5%. This alkaloid can be used as starting material for the semi-synthesis of (-)-Vincamine, a compound used for geriatric patients in Europe, some 400 tonnes of seeds are exported from the Cameroun annually for this purpose.

In the section on pharmacology there are collected references to studies done on the pharmacology of the alkaloids found in Voacanga.

The total alkaloids of *V. africana* are reported to be only slightly toxic. They act as CNS depressants and hypotensives.

Dregamine is reported to have local anaesthetic activity, has convulsant and respiratory stimulant properties and is said to inhibit fatigue.

Tabernaemontanine is claimed to be of use when given orally in certain geriatric conditions, (arteriosclerosis, cerebral trauma, headache, vertigo, memory difficulties etc, peripheral circulatory irregularities). A mixture of the HCl salts of this with Vobasine and Ochropamine is stated to have an anti-inflammatory, antipyretic and analgesic effect comparable with acetylsalicylic acid (aspirin). High doses of Vobasine causes central (inc respiratory) depression.

Tabersonine is only slightly toxic, with a quarter the hypotensive activity of reserpine.

The Ibogan type alkaloids, Coronaridine, Ibogaine, Ibogamine, Iboxygaine, Voacangine and Voacristine exhibit mostly a central stimulant effect. High doses of voacangine produces convulsions and asphyxia. Iboxygaine causes psychomotor(?) effects. Ibogamine, Ibogaine and Iboxygaine are tremorigenic, Coronaridine and Voacangine seem not. Ibogaine is an antagonist to reserpine. Ibogaine is more effective in counteracting electroshock than Voacangine, both these alkaloids lower body temperature. Coronaridine and Voacangine both seem to have local anaesthetic activity. Ibogaine is 'hallucinogenic' and anti-fatigue agent.

Voacamine has been found to be a useful heart tonic, having a similar action to cardiac glycosides like digitoxin, but without the toxicity associated with these compounds. Its duration of action is also longer, doesn't appear to effect the heart rate much. Voacamine can cause hypertension due to peripheral vasoconstriction in high doses, also a CNS depressant.

Vobtusine is a cardiac depressant, high doses may cause convulsions and death, not considered as particularly useful.

Vincamine was first tried as an anti-hypertensive drug, later studies found it to increase cerebral blood flow, as a result of cerebral vasodilation. It has become popular in Europe, especially for geriatric patients; it ameliorates disturbances of attention, memory and mood. There has been some study of the cerebrovascular effects of this compound. Pretreatment with certain nootropic substances, including Vincamine have been shown to improve performance in animal models of cognitive dysfunction (?). This compound may effect various cerebral enzymes as well as direct vasodilatory effects. This compound has received attention as a 'smart drug' or 'nootropic'.

Coronaridine and Voacangine both seem to have some local anaesthetic activity. Coronaridine is reported to be an anti-fertility agent in mice, due to an oestrogenic effect.³⁴

Tabernaemontana

Tabernaemontana is a genus of 100-110 species of flowering plants in the family Apocynaceae, with a pan-tropical distribution. They are shrubs and small trees growing to 1-15 m tall. The leaves are evergreen, opposite, 3-25 cm long, with milky sap. The flowers are fragrant, white, 1-5 cm diameter.

Plants containing Ibogaine according to Thikal

And this all leads smoothly to the botany, which is almost as convoluted as the chemistry. Here, let me list the plants that contain ibogaine, or that should contain it. Allow me a brief run-down of binomials. There is a number of species that are, or have been, classified as belonging to the Tabernanthe genus and which are reasonable sources of ibogaine, and which are logical alternatives, psychopharmacologically, to the iboga plant itself.

Tabernanthe iboga. This is the major source of ibogaine and is found in Gabon, mentioned above. T. Albiflora and T. Angulato.

Tabernanthe orientalis. This plant is now called Ervatamia orientalis, and is found in Western Australia. The leaves contain ibogaine, along with six minor alkaloids that are closely related, structurally.

Tabernanthe pubescens. This is found in Zaire, and contains a number of alkaloids closely related to ibogaine in structure, as well as ibogaine itself.

³⁴ http://www.erowid.org/plants/voacanga_aficana/voacanga_aficana_info1.shtml

Tabernaemontana spp. This genus is from a tribe within the family Apocynaceae that is called the Tabernaemontaneae. As an official sub-family it would be called Tabernaemontanoideae. It is because of the casual use of names such as these that botanical binomialists are rarely invited to social functions. It (this Genus, that is) contains several dozen species, some with ibogaine, many with analgesic or sedative action in experimental animals, and some with a quite a history of native usage either in Africa or Southeast Asia.

And there are many plants in the Apocynaceae family that carry fascinating alkaloids that are closely related in structure to ibogaine and which, potentially, might have a similar psychopharmacology. In most of these, ibogaine is present in very small amounts, if any at all.

Anacampta spp. have usually been published as Tabernaemontana spp., as have been species originally published as part of the Genera Bonafousia, Capuronetta (which has become the species capuronni under this Genus), Conopharyngia, Ervatamia, Gabunia, Hazunta, Muntafara, Pagiantha, Pandaca, Peschiera, Phrissocarpus, and Stenosolen, All of these contain alkaloids related to Ibogaine.

Callichilia barteri has appeared as Hedranthera barteri, but C. subsessilis demands the name Tabernaemontana subsessilis in the presentation of its alkaloid content.

Creoceras, Rejoua, Schzozygia, Stemmadenia and Voacanga, have, with all their species, remained intact with their original names.

Peschiera echinata. This is one of some ten species within the Tabernaemontaneae classification, with some 2% alkaloid content in its leaves. Ibogaine is present. Present in Guyana.

Voacanga schweinfurthii var. puberula (known in the older literature as Voacanga puberula) contains some ten related alkaloids, the major one of which is found in the seeds, and is tabersonine present at a rather remarkable 3.5 %. Ibogaine is present in the root bark but, at a concentration of 200 mg/Kg (0.02%), it is truly a minor constituent.³⁵

Anantia Meyer in the North of South-America.

Methods of Extraction

Making a Tabernanthe iboga extract

DO NOT CONSIDER SELF-ADMINISTERING IBOGAINE OR RELATED IBOGA PRODUCTS WITHOUT MEDICAL APPROVAL

³⁵ http://www.erowid.org/library/books_online/tihkal/tihkal25.shtml

The following piece concerning the making of a T. iboga extract for consumption was forwarded to a foreign Internet list dealing with Ibogaine issues. We reproduce it here for interest value, not as a methodology for self-treatment.

Because of the problems of working with Tabernathe iboga rootbark in its natural form, namely it's foul taste and the need for supervised hourly administrations, simple extraction processes have been devised which can render it easier to take.

We have no knowledge of anyone using the extraction detailed below to detoxify from drug usage, though it may be suitable for such a purpose.

Method

Put the rootbark into a large clean jar and add approx half a 70cl bottle of vodka, two cups of red wine and the juice of a lemon. Some users like to also add a half-teaspoon of vinegar.

Shake vigorously and then leave to stand for one week, shaking occasionally.

After one week has passed, empty the contents into a bowl or pan and place gently over boiling water. DO NOT DO THIS CLOSE TO A NAKED FLAME AS ALCOHOL IS HIGHLY FLAMMABLE. ENSURE THE AREA IS WELL VENTILATED.

Alcohol boils at around 80 degrees centigrade, (as opposed to water which boils at 100). When the alcohol has boiled gently away, remove the bowl and strain the contents through cloth. (The solid that remains should no longer have the bitter taste it did prior to beginning the extraction. If it does, mix everything back together and return it to the jar for another week. Then repeat the above.)

Assuming that the solid is not now distinctly bitter, discard it and allow the liquid that remains after straining to stand for about 12 hours.

Storage - It is recommended you consume the extract within a few days of making it. However, if necessary, it can be stored for about 2 - 3 weeks in a domestic refrigerator. After this period it will begin to brew, and the composition will be altered. Smelling the extract will tell you if it's started to deteriorate.³⁶

Isolation of Ibogaine from Tabernanthe iboga

In this case it was for the root/root bark of tabernanthe iboga used as the plant material, which may contain up to 2.5 % or 6 % alkaloids respectively. The plant material was extracted with methanol four times, filtered and the methanol reduced to a small volume. An equal amount of water and acetic acid solution is added and shaken with petroleum naphtha, which is then separated and backwashed with acetic acid solution.

³⁶ <http://www.ibogaine.co.uk/extract.htm>

All the aqueous phases are combined. The aqueous phases are reduced in volume, then basified with ammonia hydroxide. This is then extracted four times with ethylene dichloride (possibly chloroform too). The solvent is washed with water, dried and concentrated. An equal amount of ethanol is added and the whole reduced to the original volume, then about twice the amount of ethanol is added. After chilling in the fridge for two days or so, ibogaine crystallises out, and can be collected by filtration. The remaining liquid was again reduced in volume and re-chilled for a second crop of ibogaine.

Evaporation to dryness of the liquid yielded other alkaloids and residual ibogaine, which can be separated by chromatography, though can be laborious. To purify the ibogaine 100 mg of the crude ibogaine, as obtained above, was dissolved in 1 l of acetone, then 53.1 ml of 1:1 HCl was added, with ibogaine HCl precipitating (108 mg in this case) out straight away, this compound being relatively insoluble in acetone, compared to the base. Isolated by filtration.

ibogaine mp 151-153* C sol - ethanol, ether, chloroform, acetone

ibogaine HCl mp 299-300* C.

In *tabernanthe iboga*, ibogaine seems to be the most active and prominent alkaloid. In other species that are recorded as containing ibogaine, other alkaloids sometimes make up the majority of the alkaloids, with ibogaine being a minor component. Many related alkaloids however have a similar but not such strong action as ibogaine. The isolation of ibogaine from more complex mixtures of alkaloids may be a bit more tricky, especially if ibogaine is not a major component of the alkaloids.³⁷

Extraction studies of Tabernanthe iboga and Voacanga africana

Extraction of *T. iboga* root (TA). One kg (2.5 L) of powdered *T. iboga* root and 5 L of 0.5% acetic acid were placed in a 6 L plastic bucket, stirred occasionally for one hour, and filtered through a cloth sack. The sack was wrung to expel all possible liquid from the root powder and the filtrate (pH = 3-4) was basified using 60 mL of 30% ammonia. The resulting flocculent, medium greenish-brown precipitate of TA was patiently gravity filtered through 30 cm filter paper and thoroughly rinsed with distilled water. This procedure was repeated twice more on the same root powder. The filter papers bearing the TA were placed on paper towels on a wire rack and left in a warm draft until successive weighings detected no more than 0.3% loss per day. The hard, dark brown solid weighed 30.037 g (3.0%) and was ground in a mortar and sifted to give a fine brown powder.

Conversion of alkaloids to the hydrochlorides (PTA HCl). 28.00 g of powdered TA was placed on a filter paper in a funnel and 450 mL of acetone was added in portions with

³⁷ <http://www.entheogen.com/content/view/123/2/>

gentle stirring. The funnel was removed and 2 mL of concentrated HCl was slowly added dropwise to the flask with swirling, occasionally adding a trace of PTA HCl from a previous batch to initiate precipitation. After waiting a few minutes to allow precipitation to begin, dropwise HCl (2.8 mL) was added with swirling until the liquid became acidic according to pH paper. A final 0.4 mL of HCl was added dropwise and the flask was placed in the refrigerator overnight. The yellow powder was scraped from the sides of the flask, filtered, rinsed with 84 mL of acetone, and dried at room temperature to give 9.493 g (33.9%) of PTA HCl. The black, spent TA weighed 14.521 g (51.9%) after drying.

Ibogaine HCl. 9.712 g of PTA HCl was patiently dissolved in 150 mL of boiling 95% ethanol, set overnight at room temperature, refrigerated for two hours, and the mother liquor was decanted from the yellow crystals (4.412 g). Recrystallizing again from 80 mL of 95% ethanol gave 3.666 g of mostly pure ibogaine HCl.

Recovery of residual alkaloids (RA). Most of the acetone was distilled from the filtrate from the preparation of PTA HCl and the remainder was evaporated using a stream of air. The dark residue was dissolved in 400 mL of distilled water, filtered, and basified to pH 9 using 3 mL of 30% ammonia. The medium yellow suspension was filtered through a fresh coffee filter paper and left on a warm surface to dry. The chunks of light, chalky, off-white alkaloid residue weighed 4.750 g (17.0%).

Extraction of *V. africana* trunk bark (VTA). One kg of powdered trunk bark was extracted in the same manner as the *T. iboga* root above, resulting in 59.723 g (6.0%) of crumbly brown voacanga total alkaloids (VTA).

Conversion of alkaloids to the hydrochlorides (VPTA HCl). 75.00 g of VTA was treated in a manner similar to the PTA HCl above, resulting in 35.929 g (43.6%) of medium brown VPTA HCl. The spent VTA weighed 31.534 g (42.0%).

Recovery of residual alkaloids. The filtrate from the preparation of VPTA HCl was treated in a manner similar to the PTA HCl filtrate above, resulting in 12.119 g (16.2%) of chalky, off-white solid.³⁸

Preparation of V.Africana Extract

Total alkaloidal extracts of *Voacanga africana* seeds (obtained from Valley Farms Ltd, ccra, Ghana) were prepared using standard extraction procedures [10,43]. Briefly, dried seeds were powdered and defatted using petroleum ether, and a crude concentrated extract was obtained by a series of ammonia basification and methanol extractions. This crude extract was then purified using solvent extraction, pH manipulation, and precipitation techniques [43].

Drugs Used and Their Sources Pluronic F127 was obtained from BASF Wyandotte (Michigan); 6-cyano-7-nitroquinoxaline-2,3-dione (CNQX) was obtained from RBI, while ibogaine, bicuculline, nystatin, haloperidol, and all the salts in the ACSF were

³⁸ http://www.erowid.org/references/refs_view.php?A=ShowDoc1&ID=6466

obtained from Sigma (St. Louis, MO). Stock solutions of ibogaine and VA extract were made in 63% ethanol and diluted 500 –1000-fold prior to application.³⁹

Ibogaine from *Trachelospermum jasminoides*

"Leaves and stems (50 kg) were dried in the shade and extracted with ethanol. The crude alcoholic extracts were concentrated and partitioned between 10% hydrochloric acid and chloroform (pH 1). The chloroform layer was dried with anhydrous sodium sulfate and concentrated to a gum (25 g, F1). The aqueous acidic layer was basified with aqueous ammonia and extracted into chloroform at various pH values (5, 7, 9, and 11). The fraction obtained at pH-5 (20 g, F2) was found to contain major alkaloids. We have recently reported five indole alkaloids from this plant (2)."

"The crude alkaloidal fraction (F1, 25 g) was subjected to flash chromatography. [...] The alkaloid isolated was identified as voacangine-7-hydroxyindolenine by comparison of its spectral data with those reported in the literature (3). [...] Voacangine-7-hydroxyindolenine may have been formed by air oxidation during the extraction and isolation process."

"Fraction F2 (20 g) was also loaded on a silica column (750 g) and was eluted with increasing polarities of mixtures of petroleum ether, chloroform, ethyl acetate, and methanol." "The fraction obtained on elution with chloroform:ethyl acetate (3:1) consisted of a mixture of four alkaloids. This fraction was subjected to a flash chromatography which was eluted with increasing polarities of mixtures of petroleum ether in acetone. The fraction obtained on elution with 70% petroleum ether in acetone was found to contain two major alkaloids. These alkaloids were separated by preparative TLC on silica gel (petroleum ether:acetone:ammonia, 6:3.95:0.05). The faster moving alkaloid was identified as ibogaine by comparison of its spectral data with those reported in the literature (7) while the slower moving alkaloid was identified as tabernaemontanine (8)."

"Further elution of the same column with 60% petroleum ether in acetone afforded another alkaloid which was further purified by preparative TLC on silica gel (petroleum ether:acetone:ammonia, 1:1:0)⁴⁰

Pharmacology

Pharmacological History

³⁹ http://www.sciencedirect.com/science?_ob=ArticleURL&_udi=B6SYT-3SDKCH3-7&_user=499911&_rdoc=1&_fmt=&_orig=search&_sort=d&view=c&_version=1&_urlVersion=0&_useri=499911&md5=ad71f1c4327ce2b32bfe340b150145bb

⁴⁰ <http://leda.lycaeam.org/?ID=16151>

In traditional use, ibogaine was consumed by chewing the root bark of *T. iboga*. Commercially available formulations include plant extracts and crystalline ibogaine hydrochloride salt. From 1901 to 1905, ibogaine was recommended as a treatment for “asthenia” at a dosage range of 10–30 mg/day. Tablets from extracts of the roots of *Tabernanthe manii*, containing about 200 mg of extract or 8 mg of ibogaine per tablet, were sold in France as a neuromuscular stimulant between 1939 and 1970 under the trade name of Lambarene®. This marketed formulation was recommended in the treatment of fatigue, depression, and recovery from infectious disease. Another ibogaine containing preparation was Iperton®, used as a tonic or stimulant, delivering 40 mg of the total *T. iboga* extract.³⁹ The ibogaine hydrochloride salt (98% purity) was favored for research. Capsules containing 100 or 200 mg of ibogaine were available. Most of preclinical experimentations have been reported by laboratories preparing the administered dose from the ibogaine hydrochloride acquired from Sigma Chemical Co. (compound No. I-7003, St. Louis, Mo, USA). Future research will permit the acquisition of ibogaine salt from the National Institute of Drug Abuse (NIDA). The use of ibogaine in the form of Endabuse®, the trademarked procedure to synthesize ibogaine for use in human drug abusers, provided another source for the compound. Three formulations containing ibogaine (the Sigma compound, the NIDA compound, and Endabuse®) were tested in rat for their discriminative dose–response effects. Results indicated that these drugs were equipotent.⁴¹

Metabolism

The principle method of ibogaine metabolism is O-demethylation by the liver, which yields O-desmethylibogaine (also known as 12-hydroxyibogamine or, most commonly, noribogaine) and perhaps other, as of yet undetected, metabolites (Popik and Skolnik, 1999; Mash et al., 2000). Obach et al. (1998) found that, of ibogaine consumed, 75-80% was accounted for as noribogaine. Hough et al. (1996) reported that ibogaine, when administered intraperitoneally in rats, is subject to a significant “first pass” effect; that is its pharmacological actions begin before it is metabolized. They also found that ibogaine has a high propensity to be deposited in adipose tissue, showing high levels in fat for at least 12 hours after administration. It is hypothesized that this quality may enable a single dose of ibogaine to provide a long acting “depot-like time course of action” (Popik and Glick, 1996).

Additionally, noribogaine has a longer half-life than ibogaine, and is also psychoactive; therefore it is possible that this metabolite may play a role in ibogaine's long-term effects (Mash et al., 2000). Pearl et al. (1997) detected presence of noribogaine in rodent brains up to 19 hours after an intraperitoneal administration of 40 mg/kg of ibogaine, while the half-life of ibogaine has been established to be 60 minutes (Dhahir, 1971; Zetler, Singbarth, and Schlosser, 1972). Oral administration of ibogaine in rabbits (10 mg/kg) yielded peak urine concentrations at a maximum of 4-5 hours, rapidly decreasing thereafter, until complete absence at 6 hours (Dhahir, 1971; Cartoni and Giarusso, 1972). In addition to urine, both ibogaine and noribogaine are detectable in many other bodily

⁴¹ <http://het.sagepub.com/cgi/content/abstract/27/3/181>

materials, including blood, liver, and brain (Cartoni and Giarusso, 1972; Bertol, Mari, and Froldi, 1976).

The O-demethylation of ibogaine in the liver is catalyzed by the P4502d6 cytochrome, which has important clinical implications (Obach, Pablo, and Mash, 1998). Approximately 5-10% of Caucasians lack the gene needed to produce this enzyme, and are therefore more prone to adverse reactions from drugs metabolized by it (Gonzalez and Meyer, 1991). In addition, this cytochrome is involved in the metabolism of a number of pharmacological compounds, including neuroleptics, beta-blockers, tricyclic antidepressants, and opioids, raising possible issues of adverse interactions with ibogaine (Eichelbaum and Gross, 1990; Fromm, Kroemer, and Eichelbaum, 1997). Furthermore, individuals lacking this gene are less likely to benefit from the therapeutic effects of drugs metabolized by P4502d6 (Obach, Pablo, and Mash, 1998).

Like many tryptamines (e.g. serotonin, melatonin, d-lysergic acid diethylamide or LSD, psilocybin, N,N-dimethyltryptamine or DMT), the pharmacodynamics of ibogaine are particularly complex, involving multiple sites of action. Ibogaine affects, both directly and indirectly, dopaminergic, glutamatergic, serotonergic, opioid, nicotinic, sigma, gamma-aminobutyric acidergic (GABA), nicotinic, cholinergic, and muscarinic pathways, as well as calcium regulation and voltage-dependent sodium channels (Popik and Glick, 1996; Glick and Maisonneuve, 1998; Alper et al., 1999; Popik and Skolnik, 1999). It is therefore thought that ibogaine's effects are a product of a combination of its interactions with these systems. However, there have been a number of discrepancies reported with regard to the specific manners in which ibogaine exerts its pharmacological actions (Popik and Skolnik, 1999). Additionally, noribogaine affects many of the same neural components as ibogaine, which further complicates the study of its pharmacological profile (Mash et al., 2000).

A great deal of attention has been paid to ibogaine's effects on the dopaminergic system, as dopamine is theorized to play a primary role in the sensitization, reinforcing, and motivational properties of drugs of abuse (Fibiger and Phillips, 1986; Berridge and Robinson, 1998). Robinson and Berridge (1993) proposed that the incentive salience of drug-taking behaviors is related to neurotransmission in mesotelencephalic dopamine pathways, in which the repeated administration of addictive drugs sensitizes the incentive salience of drug related cues. Compared to drug-naïve individuals, drug addicts have increased sensitivity to both the positive (Grant et al. 1996; Ligouri, Hughes, Goldberg, and Callas, 1997) and negative (Ellinwood 1968; Angrist, 1983) reinforcing effects of drugs of abuse. These reinforcements are apparently mediated through enhanced brain activity in brain regions innervated by the mesolimbic dopamine system, including the frontal cortex (Alper et al., 1999) and the amygdala (Childress et al., 1999). According to this theory, if activity in sensitized dopamine pathways is decreased, it should alleviate addictive drug craving (Blackburn and Szumlinski, 1997).

Though ibogaine does not appear to affect binding at dopamine receptors or transporters (Broderick, Phelan, and Berger, 1992), it has been found to reduce extracellular levels of dopamine in the nucleus accumbens (Glick and Maisonneuve, 1998; Glick et al., 1999).

Ibogaine effects on dopamine metabolites appear to be inconsistent. When measurements are taken shortly after administration (within 2 hours), or when high concentrations are used (greater than 100 μM), increases in dihydroxyphenyl-acetic acid (DOPAC) and homovanilic acid (HVA) are seen (Maisonneuve, Keller, and Glick, 1991; Maisonneuve, Rossman, Keller and Glick, 1992; Sershen, Hashim, Harsing, and Lajtha, 1992). However, when lower concentrations are used (e.g. 10 μM) or measurements are taken after a longer period of time (up to a week), dopamine brain concentrations remain unchanged, and metabolite concentrations decrease (Maisonneuve, Keller, and Glick, 1991; Sershen, Hashim, Harsing, and Lajtha, 1992).

Sershen et al. (1994) reported that ibogaine's effects on dopaminergic function are largely regulated by its interactions with serotonin receptors. This was inferred from their finding that ibogaine inhibited the ability of the 5-HT_{1b} agonist CGS-12066A to increase stimulation induced dopamine release in rat and mouse striatal slices. It has also been demonstrated that ibogaine increased the ability of the 5-HT₃ agonist phenylbiguanide to produce stimulation evoked dopamine release in mouse striatal slices (Sershen, Hashim, and Lajtha, 1995). Taken together, these findings support the notion that ibogaine's effects on serotonin have a role in determining its dopaminergic effects, but the specific nature of this role has yet to be determined.

Ibogaine has been found to increase 5-HT concentrations in both the nucleus accumbens and striatum of the rat (Broderick, Phelan, Eng, and Wechsler, 1994; Ali et al., 1996). However, Benwell et al. (1996) found that ibogaine reduced serotonin levels in the medial prefrontal cortex. Furthermore, studies of ibogaine's specific actions at serotonin receptors have been inconclusive. Deecher et al. (1992) found that ibogaine did not displace ligands acting at 5-HT_{1a}, 5-HT_{1b}, 5-HT_{1c}, 5-HT_{1d}, 5-HT₂, or 5-HT₃ receptors, while Repke et al. (1994) found that it did inhibit binding of 5-HT_{1a}, 5-HT_{2a}, and 5-HT₃ ligands with low affinity (>100, 12.5, and >100 μM). Additionally, Sweetnam et al. showed that ibogaine inhibits radioligand binding to both 5-HT₂ and 5-HT₃ receptors, with considerably higher affinity (approximately 4 μM), while Helsley et al. (1998) found that ibogaine bound to 5-HT₂ receptors with low affinity in vitro (> 40 μM), but occupied this receptor in vivo following systemic administration.

It is postulated that ibogaine may act as a reversible inhibitor of serotonin transporters, as concluded from the observation that it inhibited transporters in the isolated kidney cells of pigs (Popik and Skolnick, 1999). Sershen et al. (1994) found that, at doses of 40-50 mg/kg, ibogaine decreased levels of 5-hydroxyindoleacetic acid [5-HIAA] in the frontal cortex, hippocampus and olfactory tubercle of the mouse. Ibogaine was also found to decrease 5-HIAA levels in the nucleus accumbens and striatum of the rat, but to increase 5-HIAA levels in the medial prefrontal cortex (Benwell, Holtom, Moran, and Balfour, 1996; Ali et al., 1996). The differing effects of ibogaine on serotonergic function in different areas of the brain have yet to be explained. Indeed, this is the case with most psychedelic compounds, making a strong case for the further scientific study of these substances.

Like dopamine systems, the glutamatergic pathway has often been implicated in drug abuse and addiction, specifically N-methyl D-aspartate (NMDA) channel receptors. Preclinical data have consistently indicated that NMDA antagonists interfere with sensitization, tolerance, and dependence related to stimulant, alcohol, benzodiazepine, barbiturate, and opiate use (Trujillo and Akil, 1991; Wolf and Khansa, 1991; Khanna, Kalant, Shah, and Chau, 1993; File and Fernandez, 1994; Popik and Skolnik, 1996). Furthermore, blockers of NMDA receptors have been shown to reduce naloxone-induced jumping in morphine-dependent mice (Layer et al., 1996; Popik and Skolnick, 1996). NMDA antagonists act by occupying a binding site within a calcium channel, which is normally gated by glutamate, the brain's principle excitatory neurotransmitter (Helsley, Rabin, and Winter, 2001).

Ibogaine has been found to act as a non-competitive antagonist at NMDA receptor channels (Popik et al., 1995), which is supported by the finding that ibogaine has a high affinity for NMDA site binding (Glick and Maisonneuve, 1998; Helsley, Rabin, and Winter, 2001). Popik et al. (1994) showed that ibogaine substituted for MK-801 (dizocilpine, a known NMDA antagonist) at a rate of approximately 70% in drug discrimination studies in mice. In addition, ibogaine has been shown to inhibit binding of both MK-801 (an NMDA antagonist) and PCP at NMDA receptors (Layer et al., 1996; Helsley et al., 1998). Ibogaine, at 80 mg/kg, also blocked NMDA-induced convulsions in mice for up to 72 hours after administration (Leal, de Souza, and Elisabetsky, 2000).

It has been demonstrated that certain sigma ligands may be effective in the treatment of drug abuse, due to their ability to block the behavioral effects of cocaine and amphetamine in non-human subjects (Helsley et al., 1998). Of all binding sites that have been studied thus far, ibogaine shows the greatest affinity for sigma-2 receptors, with reported K_1 values ranging from 90-201 nM (Bowen et al., 1995; Mach, Smith, and Childers, 1995). Because of its high affinity for mu 2 receptors, ibogaine has been proposed to act as a mu 2 agonist (Bowen, Vilner, Bandarage, and Keuhne, 1996). Studies have also shown that ibogaine also binds to mu 1 receptors with an affinity of less than 10 uM (Mach, Smith, and Childers, 1995). In support of this finding, ibogaine was shown to inhibit [3H]pentazocine (a mu 1 receptor ligand) binding to high and low affinity sites in the mouse cerebellum (Popik and Skolnick, 1999).

Bowen et al. (1995) hypothesized that ibogaine's interaction with sigma receptors, particularly sigma-2 receptors, may be responsible for its effects on the regulation of calcium release from intracellular stores. They found that ibogaine produced a concentration dependent increase of 13-45% in intracellular calcium levels. Additionally, ibogaine was shown to non-competitively antagonize calcium-induced contraction of the aorta and mesenteric artery in the rat (Hajo-Tello et al., 1985). The practical implications, however, of ibogaine's effects on calcium regulation are not yet clear.

Of particular interest with regards to its putative role in interrupting opiate dependence are ibogaine's effects on the opioid system. Ibogaine does not appear to be a conventional opioid agonist or antagonist (Alper et al., 1999). Bhargava et al. (1997) found that ibogaine bound to mu-, delta-, and kappa-opioid receptors low affinity, 11.0, > 100, and

3.77 uM, respectively. However, they did find that noribogaine had considerably higher affinities for these receptors; 2.66 uM for mu-, 24.72 uM for delta-, and 0.96 uM for kappa-opioid receptors. These findings have been supported by results showing even higher affinities for noribogaine binding, with affinities of up to 160 nM at the mu-opioid receptor (Pablo and Mash, 1998). It is therefore hypothesized that noribogaine may play a significant role in ibogaine's effects on opiate dependency (Bhargava, Cao, Zhao, 1997; Mash et al., 2000).

While ibogaine does not show high affinity for opioid receptor binding, it has been shown to exert some less direct effects on the opioid system. Ibogaine inhibits the binding of [3h]U-69593 to kappa-opioid receptors, with a K_i value of 2-4 uM (Repke, Artis, Nelson, and Wong, 1994). However this inhibition is reversible, and therefore is not likely to contribute to ibogaine's long-term effects (Popick and Skolnick, 1999). Additionally, it has been shown, through a two-site model, that ibogaine inhibits naloxone binding at mu-opioid receptors in the forebrain of mice with a K_i value of 130 nM (Codd, 1995). This suggests that ibogaine may act as mu-opioid agonist of a novel type (Bhargava, Cao, and Zhao, 1997).

Ibogaine, at concentrations less than 10 uM, has been shown to selectively inhibit nicotinic receptor mediated catecholamine release in the mesolimbic system (Mah et al., 1998). This inhibition was reversible at low doses (10 uM), but persisted for at least 19 hours with washout at higher doses. Like MDMA and dopaminergic systems, the mesolimbic catecholamine system is implicated in the addictive process. It is considered to be a part of the reward pathway that mediates positive reinforcement in drug addiction (Di Chiara and Imperato, 1988).

A recent study by Glick, Maisonneuve, Kitchen, and Fleck (2002) asserts that, although ibogaine and noribogaine exhibit low to moderate binding affinities at many sites, the most critical site of action for the modulation of drug self-administration may be the alpha3 beta4 nicotinic receptor. They found that both ibogaine and its synthetic analogue 18-methoxycoronaridine exhibit a more potent antagonism at this site than at alpha4 beta2 nicotinic receptors, or at NMDA or 5-HT3 receptors. Additionally, co-administration of either ibogaine or 18-methoxycoronaridine at sub-therapeutic doses with another alpha3beta4 antagonist (either mecamylamine or dextromethorphan) produced a significant therapeutic response. Because alpha3beta4 receptors are mainly located in the medial habenula and the interpeduncular nucleus, and exist in the dopaminergic nuclei of the ventral tegmental area in only low densities, these researchers suggest that the dopaminergic mesolimbic pathway may not be directly involved in mediating ibogaine's anti-addictive effects. It is hoped that further study will reveal these mechanisms in more detail.⁴²

Iboga is said to raise the red blood cells for better oxygenization in the better. Ibogaine is said to be stimulating from 8-50mgs, and has been used as an anti-depression agent, as well as abused as a stimulant by sportsmen. It was available in France under the name "Lambarene". It is also said to increase and potentiate the effects of opioids and opiates,

⁴² http://www.erowid.org/chemicals/ibogaine/ibogaine_article3.shtml

which is another reason why they shall not be taken together. Apparently an Antidote to Ibogaine toxification is atropine, although it is highly dangerous itself.⁴³

Pharmacokinetics and metabolism

An adequate understanding of ibogaine's pharmacokinetics is not yet established. It is not entirely clear how ibogaine is absorbed, distributed, metabolized and excreted. Dhahir (38) as well as Zetler et al., (39) reported that the half life of ibogaine is approximately one hour in rodents; ibogaine could not be detected in the brain and other tissues 12 hours after administration. However, the assay used by these investigators lacked desired specificity and sensitivity. Gallagher et al. (40) have developed a highly sensitive and specific method to quantify ibogaine in plasma and tissues. The method utilizes organic extraction and derivatization with trifluoroacetic anhydride, followed by gas chromatography for separation and mass spectrometry (GCMS) for detection. Using this GCMS method, Hough et al. (41) studied the tissue distribution of ibogaine after i.p. and s.c. administration in rats. The results indicated that ibogaine is subject to a significant "first pass" effect after i.p. dosing and that there is a marked propensity for ibogaine to be deposited in adipose tissue; ibogaine levels in fat were very high for at least 12 hours after administration. It was suggested that a single administration of ibogaine may provide a long-acting depot-like time course of action (41).

Little is known about the metabolism of ibogaine. Dhahir (38) showed that 4-5% of injected ibogaine is excreted unchanged in the urine of rats. Recent evidence suggests that ibogaine is metabolized to at least one active metabolite. It has been shown that, following ibogaine administration in humans, a metabolite can be detected in plasma (42). This metabolite, called O-desmethylibogaine (noribogaine or 12-hydroxyibogamine), is a result of ibogaine O-demethylation and has also been detected in plasma and in the brain of ibogaine-treated rats (43,44). Behavioral and neurochemical studies in rats (45) have established that O-desmethylibogaine is pharmacologically active and produces several effects (e.g., decrease in morphine and cocaine self-administration, reduction in the locomotor stimulant effect of morphine) that mimic those of ibogaine. Other studies (46), however, failed to demonstrate inhibition of the morphine withdrawal syndrome by O-desmethylibogaine (the putative metabolite of ibogaine) or by O-t-butyl- O-desmethylibogaine (an ibogaine analog designed to resist O-dealkylation) (figure 2). Thus, it appears that various "anti-addictive" effects of ibogaine and its metabolite may involve different neurotransmitter pathways. While a report of one human patient (42) indicated that O-desmethylibogaine persisted in plasma at high levels for at least 24 hours after oral ibogaine administration, it is not clear if this response was typical or atypical; recent reports (43,44) indicate that levels in plasma as well as in brain progressively decline from five to 24 hours after ibogaine administration (i.p.) in rats, although levels in brain may still be high enough (2-5 M) at 24 hours to mediate pharmacological effects.⁴⁴

⁴³ Iboga buch

⁴⁴ <http://www.ibogaine.org/review-dotf.html>

Ibogaine acts at the nicotinic acetylcholine receptor to inhibit catecholamine release

In an effort to determine mechanisms of action of the putative anti-addictive agent ibogaine, we have measured its effects on catecholamine release in a model neuronal system, cultured bovine chromaffin cells. Various modes of stimulating catecholamine release were used including nicotinic ACh receptor activation, membrane depolarization with elevated K⁺ and Na⁺ channel activation with veratridine. In addition, because ibogaine has been reported to interact with kappa opioid receptors, we tested whether kappa receptor antagonists could reverse ibogaine's effects on catecholamine release. Ibogaine, at low concentration (<10 µM) was found to selectively inhibit nicotinic receptor-mediated catecholamine release, while having no significant effect on release evoked by either veratridine or membrane depolarization with elevated K⁺. The inhibitory actions of ibogaine and the kappa agonists were not reversed by preincubation with the opioid antagonists nor-binaltorphimine or naltrexone, suggesting that these inhibitory effects are not mediated by the kappa opioid receptor. The effects of low dose (10 µM) ibogaine were rapidly reversible, while the inhibitory effects of higher ibogaine doses persisted for at least 19 h following ibogaine washout. The results provide evidence for a mechanism of action ibogaine at the nicotinic ACh receptor. The results are consistent with a model in which the initial high transient brain concentrations (100 µM) of ibogaine act at multiple cellular sites and then have a selective action at the nicotinic ACh receptor cation channel following its metabolism to lower brain concentrations. The present findings are relevant to potential anti-addictive actions of ibogaine and to the development of drugs to combat nicotine addiction.⁴⁵

Effects on Specific Neurotransmitter Systems

A. Ibogaine Effects on Dopaminergic Systems.

Ibogaine (at concentrations £ 100 µM) does not affect radioligand binding to dopamine receptors (D1, D2, D3, D4) (164-166). The affinity of ibogaine for dopamine transporters as measured by inhibition of [3H]WIN 35,248, [125I]RTI-121 or [125I]RTI-55 binding was ~ 1.5 - 4 µ M (73,76,166,167). However, in another study, ibogaine did not affect binding of [3H]GBR-12935, a ligand that also appears to label dopamine transporters (85). Ibogaine inhibited [3H]dopamine uptake in porcine kidney cells transfected with dopamine transporter with a Ki ~86 µM (168).

The in vivo and ex vivo effects of ibogaine on dopamine metabolism in mesolimbic areas of the rodent brain (striatum, nucleus accumbens) are controversial and highly inconsistent. In an attempt to reconcile several contradictory findings, one may note the following.

Dopamine concentrations are reduced and dopamine metabolites dihydroxyphenyl-acetic acid (DOPAC) and homovanilic acid (HVA) are increased by ibogaine under certain experimental conditions. For example, when either measurements are taken shortly (within 2 h) after ibogaine administration or when relatively high concentrations (£ 100 µM) are used (69,71,76,81,169-173). Reductions in extracellular dopamine

⁴⁵ sdarticle.pdf

concentrations were also observed after administration of a number of ibogaine derivatives, including O-desmethylibogaine (89) and 18-methoxycoronaridine (97).

When dopamine is measured at longer periods after ibogaine administration (e.g., up to a week) or low concentrations (e.g., 10 μ M) are applied, brain concentrations appear unchanged and metabolite concentrations are decreased (69,71,76,81,82,169,170,172).

The increased levels of extracellular dopamine metabolites together with decreased or unchanged levels of dopamine suggests that ibogaine increases dopamine turnover shortly after administration. This may be followed by a decrease in turnover that may persist for some time after ibogaine administration. French et al., (91) demonstrated that doses of ibogaine ($\sim$ 1.5 mg/kg, i.v.), much lower than a "typical" dose of 40-80 mg/kg, markedly excited dopaminergic neurons in the ventral tegmental area of the rat.

TOP

1. Dopaminergic effects: Pharmacological Specificity.

Administration of a kappa antagonist (norbinaltorphimine, 10 mg/kg) and NMDA (10 mg/kg) (either jointly or individually) reversed ibogaine (40 mg/kg) induced decreases in striatal dopamine and increases in dopamine metabolites (88). Similarly, Reid et al., (172) observed that the decrease in dopamine levels produced by ibogaine (100 μ M) was reversed by either naloxone (1 μ M) or norbinaltorphimine (1-10 μ M). However, functionally opposite effects were observed by Sershen et al., (174,175) who reported that the ability of the kappa opioid agonist (U-62066) to inhibit electrical- or cocaine-induced [3 H]dopamine release from mouse striatum was attenuated by pretreatment of mice with ibogaine (40 mg/kg, i.p., 2 hours prior; or 2 x 40 mg/kg, 6 hours apart, killed 18 hours later) (174,175).

Ibogaine-induced dopamine release from the isolated mouse striatum has been studied by Harsing et al., (176). Ibogaine increased basal tritium outflow ([3 H]dopamine (DA) and [3 H]DOPAC), but was without effect on electrically stimulated tritium overflow. This dopamine releasing effect was: a) reduced by the dopamine uptake inhibitors cocaine and nomifensine, b) unaltered by omission of Ca^{++} from the perfusion buffer, c) tetrodotoxin insensitive, d) unaffected by an agonist (quinpirole) or an antagonist (sulpiride) of the D2 dopamine receptor, and e) unaffected by pretreatment with reserpine. In this study, ibogaine did not affect dopamine uptake, whereas Reid et al., (172) found that both ibogaine and harmaline (10 μ M-1 mM) inhibited it. As mentioned above, ibogaine has been reported to inhibit radioligand binding to the dopamine transporter with relatively high affinity.

Sershen et al., (177) reported an involvement of serotonin receptors in the regulation of dopamine release by ibogaine. Thus, administration of ibogaine blocked the ability of a 5HT1B agonist (CGS-12066A [10 μ M]) to increase [3 H]dopamine increase in striatal slices. In other studies, a concentration of ibogaine (1 μ M) that was without effect on dopamine efflux inhibited both NMDA (25 μ M) and ($\pm$)pentazocine (100 nM) - induced dopamine release in striatal slices (178).

There are few reports of the effects of ibogaine-like alkaloids on dopamine metabolism. Like ibogaine, O-desmethylibogaine acutely decreases dopamine release in the rat nucleus accumbens and striatum (89). Administration of the R- enantiomers of coronaridine and ibogamine decreased dopamine levels in both nucleus accumbens and

striatum, whereas the S-enantiomers produced no significant changes in dopamine levels in either region (96).

In an attempt to reconcile several conflicting findings, Staley et al., (167) proposed that ibogaine might promote redistribution of intraneuronal dopamine from vesicular to cytoplasmic pools. Ibogaine displays micromolar affinity for vesicular monoamine transporters labeled with [125I]-tetrabenazine (167); these sites are crucial for the translocation of dopamine into synaptic vesicles. The inhibitory effect of ibogaine on vesicular monoamine transporters could result in redistribution of dopamine in the cytoplasm. Under such conditions, rapid metabolism of dopamine by monoamine oxidase would account for the decrease in tissue dopamine content and the parallel increase in its metabolites.

Multiple transmitter systems have been shown to modulate dopaminergic function in the central nervous system. Because ibogaine can interact with many of these systems, including kappa opioid receptors, NMDA receptors, serotonin receptors, and dopamine transporters, it is not surprising that this alkaloid can produce complex (and sometimes apparently opposite) effects on dopaminergic function. Thus, the effects of ibogaine on dopaminergic function described in this section likely reflect the dose (or concentration) of alkaloid, preparation employed (e.g., slice versus intact animal), and brain region studied.

TOP

2. Ibogaine alters the effects of abused drugs on dopaminergic systems.

In general, ibogaine attenuates the increases in mesolimbic dopamine produced by drugs (e.g., nicotine, morphine) that appear to act preferentially at dopaminergic cell bodies. In the case of drugs that act at terminal regions (e.g., cocaine and amphetamine), a gender difference has been observed. In female rats, ibogaine enhances stimulant-induced increases in dopamine concentrations, whereas it decreases the effects of these stimulants in male rats and mice.

Neurochemical studies were performed in male mice given two doses of ibogaine (40 mg/kg, i.p., 18 hours apart) followed by amphetamine (5 mg/kg) administered 2 hours after the second dose of ibogaine (81). Striatal levels of dopamine and dopamine metabolites [DOPAC, HVA and 3-methoxytyramine (3-MT)] measured 1 hour after amphetamine were decreased in mice that received ibogaine relative to saline-pretreated, amphetamine-treated controls. Compared to controls, levels of DOPAC and HVA were decreased in the amphetamine and ibogaine groups, and further decreased in the group that received ibogaine and amphetamine. However, in female rats, amphetamine-induced increases in extracellular dopamine concentrations in both the striatum and the nucleus accumbens were further potentiated by ibogaine (40 mg/kg, i.p., 19 hours preceding amphetamine) (82). Similarly, Glick et al., (169) found that ibogaine potentiated amphetamine-induced increases in extracellular dopamine concentrations in female rat nucleus accumbens and striatum. In this study, however, no effect of ibogaine was seen on amphetamine-induced decreases in extracellular concentrations of dopamine metabolites. Similarly, ibogaine potentiated cocaine-induced increases in extracellular dopamine levels in striatum and nucleus accumbens of female rats (84). However, quite opposite data were obtained by Broderick et al., (85,86) who examined dopamine release

in male rats using semiderivative in vivo voltametry. In these experiments, ibogaine (40 mg/kg i.p. given for four days) reduced the increase in dopamine release from nucleus accumbens induced by cocaine (20-40 mg/kg, s.c.). A presynaptic mechanism for these actions was suggested. An inhibitory effect of ibogaine on amphetamine metabolism has been proposed (179), because amphetamine levels were higher after ibogaine administration in female rats. However, ibogaine administration had no effect on brain cocaine levels (169).

Ibogaine (40 mg/kg, i.p. in rats) given 19 hours before morphine (5 mg/kg) prevented the increase in extracellular dopamine concentration in the striatum, prefrontal cortex and nucleus accumbens typically observed in rats (71,83). However, in the ibogaine plus morphine group, the levels of dopamine metabolites were increased (as was observed in the morphine group), suggesting that ibogaine did not prevent morphine from activating dopamine neurons. The authors suggest that ibogaine treatment may change the properties of dopaminergic neurons in such a way that dopamine release is unaffected under normal conditions, but altered when stimulated (in this case, by morphine). Nineteen hours after placebo or ibogaine (10 mg/kg, i.p.), female rats responded similarly with increased dopamine release in nucleus accumbens following a morphine challenge (180). However, in rats that received two doses of morphine during two days preceding the experiment, ibogaine pretreatment had inhibitory effects on dopamine response to a morphine challenge. A pharmacokinetic explanation for the effects of ibogaine on morphine-induced actions is unlikely, because ibogaine (40 mg/kg, i.p. 19 hours before measurement) did not modify brain levels of morphine (10 mg/kg) in rats (71).

Benwell et al., (103) reported that ibogaine (given 22 hours before nicotine) attenuated the increase in dopamine overflow in the nucleus accumbens evoked by nicotine administration. Similar effects were demonstrated, when ibogaine was administered 19 hours prior to nicotine infusion (181).

TOP

B. Opioid Systems

At concentrations of up to 100 μM , ibogaine was reported not to affect [3H]carfentanil or [3H]enkephalin binding indicating that this alkaloid does not affect mu or delta opioid receptors (124,165). In contrast, Pearl et al., (124) and Sweetnam et al., (166) demonstrated that ibogaine inhibited radioligand binding to mu opioid receptors with K_i values ~ 11 -20 μM . Ex vivo studies demonstrated that ibogaine and O-desmethylibogaine enhanced the inhibition of adenylyl cyclase activity by a maximally effective concentration of morphine in the rat frontal cortex, midbrain and striatum (182). This later effect is not likely mediated via a direct action at opioid receptors because it was observed at maximally effective concentration of morphine.

Ibogaine inhibits ($K_i \sim 2$ -4 μM) [3H]U-69593 binding to kappa opioid receptors (56,72,124,165). This binding is reversible, suggesting that the long-term effects of ibogaine cannot be attributed to an irreversible effect at this site. Recently, Codd (183) demonstrated that ibogaine inhibits binding to sites labeled by [3H]naloxone characterized by a two-site model, with K_i values of 130 nM and 4 μM .

O-Desmethylibogaine had a higher affinity than ibogaine for all of the opioid receptors studied: kappa $K_i \sim 1 \mu\text{M}$, mu $K_i \sim 2.7 \mu\text{M}$ and delta $K_i \sim 24.7 \mu\text{M}$ (124) (a recent study

showed much higher affinity of O-desmethylibogaine at the mu receptor; $K_i \sim 160$ nM (184)). Our work (72) demonstrated that O-desmethylibogaine had a 10- to 100-fold higher affinity for kappa receptors compared to ibogaine. The magnitude of this potency difference was species-specific (e.g., in rats: $IC_{50} \sim 0.3$ μ M for O-desmethylibogaine and $IC_{50} \sim 30$ μ M for ibogaine). The same study demonstrated a moderate affinity of O-t-butyl-O-desmethylibogaine for kappa receptors ($IC_{50} \sim 17$ μ M in rat forebrain) suggesting that if any of ibogaine's in vivo actions are produced at kappa receptors, then O-t-butyl-O-desmethylibogaine would be active. In this respect, O-t-butyl-O-desmethylibogaine did not influence the morphine withdrawal syndrome (72) at doses comparable to ibogaine.

TOP

C. Serotonergic Systems.

Ibogaine (at concentrations up to 1 μ M) had no effect on [3H]serotonin binding (185) and concentrations of up to 3.5 μ M had no effect on [3H]LSD binding (186). More recent studies using serotonin subtype selective ligands are discrepant. Deecher et al., (165) reported that ibogaine did not displace ligands acting at 5-HT1a, 5-HT1b, 5-HT1c, 5-HT1d, 5-HT2, or 5-HT3 receptors. However, Repke et al., (56) reported that ibogaine inhibited binding of 5-HT1a, 5-HT2a, or 5-HT3 ligands with low affinity (K_i values: >100 , 12.5 and >100 μ M, respectively) and Sweetnam et al., (166) reported IC_{50} values of ~ 4 μ M to inhibit radioligand binding to both 5-HT2, and 5-HT3 receptors.

Despite these discrepancies, both ex vivo and in vivo studies suggest that ibogaine can affect serotonergic transmission. Ex vivo studies indicate that ibogaine and O-desmethylibogaine enhance the inhibitory effects of serotonin on adenylyl cyclase activity in rat hippocampus (182). Broderick et al., (86) reported that ibogaine (40 mg/kg, i.p. for 4 days) increased 5-HT concentrations in rat nucleus accumbens. Consistent with this finding, Ali et al., (171) demonstrated that ibogaine increased 5-HT levels in striatum. Sershen et al., (76) reported that ibogaine (40-50 mg/kg) decreased levels of the serotonin metabolite 5-hydroxy-indoleacetic acid [5-HIAA] in mouse frontal cortex, hippocampus and olfactory tubercle 2 and 24 hours after injection. Ibogaine also decreased 5-HIAA levels in rat nucleus accumbens and striatum (103,171), but increased 5-HIAA and decreased 5-HT (lasting at least 7 days) in medial prefrontal cortex (103). Long and Lerrin (187) demonstrated that ibogaine is a reversible inhibitor of the active transport of serotonin into blood platelets, a finding supported by a recent observation that ibogaine inhibited serotonin transporters (in a porcine kidney cell line) with a $K_i \sim 10$ μ M (168).

Sershen et al., (177) demonstrated that ibogaine inhibited the ability of a 5-HT1b agonist (CGS-12066A) to increase stimulation-evoked [3H]dopamine release from both rat and mouse striatal slices. Additionally, ibogaine increased the ability of a 5-HT3 agonist (phenylbiguanide) to enhance stimulation-evoked [3H]dopamine release from the mouse striatal slice (174). In these studies, ibogaine (40 mg/kg, i.p.) was administered 2 hours prior to slice preparation. In other studies, ibogaine (20 mg/kg) enhanced cocaine-induced reductions in serotonin concentration in the nucleus accumbens (rat), an action attributed to a presynaptic release mechanism (85,86). However, Sershen et al., (175) reported that cocaine increased [3H]serotonin efflux in striatal slices and this efflux was

absent in mice pretreated with either ibogaine or a 5-HT_{1b} agonist. These later findings led Seršen to suggest an action of ibogaine at the HT_{1b} receptor that is likely unrelated to the ability of cocaine to inhibit serotonin reuptake blockade (188). The inhibitory effect of the kappa-opioid agonist U-62066 (1 μM) on [3H]serotonin release in striatal slices could be blocked by in vivo ibogaine administration (175).

TOP

D. Calcium Regulation.

Ibogaine (80 μM) non-competitively antagonized calcium-induced contraction of rat aorta and mesenteric artery (138), which was interpreted as an action on intracellular calcium metabolism. Tabernanthine, an alkaloid related to ibogaine, inhibited depolarization-stimulated ⁴⁵Ca influx and contractions in the rat aorta (189). Ibogaine inhibited the binding of [3H]isradipine (an L-type calcium channel blocker) in the mouse cerebral cortex with an IC₅₀ of ~28 μM (11).

TOP

E. Cholinergic Systems.

Ibogaine (at concentrations of up to 100 μM) was reported not to inhibit the binding of ligands acting at nicotinic or muscarinic receptors (165). However, subsequent studies demonstrated that ibogaine inhibited the binding of muscarinic M₁, M₂ and M₃ ligands at concentrations of ~ 31, 50 and 12.5 μM, respectively (56). Sweetnam et al., (166) showed that ibogaine inhibited radioligand binding to M₁, and M₂ receptors with IC₅₀ values of 5-7 μM. These authors also reported that ibogaine did not inhibit the binding of [3H]NMCI, a nonselective ligand at nicotinic receptors. Ex vivo studies have shown that neither ibogaine nor O-desmethylibogaine affect the inhibitory action of the muscarinic acetylcholine agonist, carbachol on adenylyl cyclase activity in the rat (182).

In a recent study, Badio et al., (125) demonstrated that ibogaine potently (IC₅₀ ~ 20 nM) blocked ²²NaCl influx through nicotinic receptor channels in rat pheochromocytoma cells. This effect was seen in the cells expressing ganglionic, but not neuromuscular, nicotinic receptor subtypes. This inhibition was noncompetitive because it was not overcome by increasing concentrations of agonist. Moreover, the blockade was not completely reversible, suggesting that ibogaine may have a long-lasting effect. O-Desmethylibogaine and O-t-butyl-O-desmethylibogaine were 75- and 20-fold less potent, respectively, than ibogaine in blocking nicotinic receptor-mediated responses. The same study demonstrated that ibogaine, as expected for a noncompetitive blocker, had a relatively low affinity (K_i ~ 4 μM) as an inhibitor of the binding of an agonist [3H]nicotine. In support to these findings, Schneider et al., (190) reported recently that ibogaine (10 μM) had an inhibitory action on nicotinic receptor-mediated catecholamine release in bovine adrenal chromaffin cells. Consistent with the Badio et al., (125) study, these inhibitory effects appeared to be long-lasting.

TOP

F. Gamma-Aminobutyric Acidergic [GABAergic] Systems.

Two independent studies (165,166) did not find any effect of ibogaine (at concentrations of up to 100 μ M) on radioreceptor binding to GABAA receptors. In addition, ibogaine did not influence $^{36}\text{Cl}^-$ uptake through GABA-gated channels (165) or GABA-evoked currents in rat cultured hippocampal neurons (162).

TOP

G. Voltage-Dependent Sodium Channels.

Ibogaine inhibited ($K_i \sim 8.1 \mu\text{M}$) [^3H]batrachotoxin A 20- α -benzoate binding to voltage-dependent sodium channels in depolarized mouse neuronal preparations (165). Ibogaine analogs, including ibogamine, tabernanthine and coronaridine, exhibited potencies similar to ibogaine in this assay.

TOP

H. Glutamatergic Systems.

Our studies (159) indicate that ibogaine is a competitive inhibitor of [^3H]MK-801 binding ($K_i \sim 1 \mu\text{M}$) to NMDA receptor-coupled ion channels. In contrast, ibogaine did not affect [^3H]($\pm$)- α -amino-3-hydroxy-5-methylisoxazole-4-propionic acid ([^3H]AMPA), [^3H]kainate or [^3H]glutamate to either the NMDA or metabotropic receptor sites, binding. These findings are consistent with a specificity of ibogaine for NMDA receptor-coupled cation channels (159,162,166). The potency of ibogaine to inhibit [^3H]MK-801 binding was also examined in 8 distinct brain regions of Sprague-Dawley male rats and compared with the dissociation constants for [^3H]MK-801 estimated using saturation analyses. A high correlation ($r=0.976$, $p=0.0004$) was obtained between the K_i of ibogaine and K_d of [^3H]MK-801 in these brain regions (119), consistent with the notion that these compounds share a common binding site. The ability of ibogaine to act as a non-competitive NMDA antagonist can also be demonstrated using [^3H]1-[1-(2-thienyl)cyclohexyl]piperidine ([^3H]TCP), a thienyl derivative of phencyclidine, resulting in a $K_i \sim 1.5 \mu\text{M}$ in rat forebrain (119).

Structure-activity studies were performed using a series of ibogaine analogs, including the putative ibogaine metabolite O-desmethylibogaine, its metabolism resistant analog O-t-butyl-O-desmethylibogaine, the iboga alkaloids [($\pm$)-ibogamine, ($\pm$)-coronaridine, tabernanthine], harmaline, and indolotropanes. Ibogaine was the most potent inhibitor of [^3H]MK-801 binding ($K_i \sim 1.2 \mu\text{M}$); the compounds with the greatest structural similarity to ibogaine, O-desmethylibogaine and O-t-butyl-O-desmethylibogaine were much less potent ($K_i \sim 5.5$ and $179.0 \mu\text{M}$ respectively) (72). A ~ 5 fold lower affinity of O-desmethylibogaine compared to ibogaine at [^3H]MK-801 binding sites was also reported by Mash et al., (191).

Consistent with these neurochemical studies, ibogaine produced a voltage-dependent block of NMDA-evoked currents in hippocampal cultures (119,162). In addition, ibogaine (100 μM) and O-desmethylibogaine (1 mM) blocked the ability of NMDA (100 μM , 5 sec) to depolarize frog motoneurons in a non-competitive and use-dependent manner (192).

TOP

I. Sigma Receptors.

In our studies (11), ibogaine inhibited [3H]pentazocine (a sigma1 receptor ligand) binding, to high ($IC_{50} \sim 86$ nM) and low ($IC_{50} \sim 5.6$ μ M) affinity sites in mouse cerebellum. Bowen et al., (193) demonstrated that ibogaine had high affinity for sigma2 sites ($K_i \sim 200$ nM) and low affinity for sigma1 sites ($K_i \sim 8.5$ μ M), a ~ 43 - fold selectivity for sigma2 sites. The affinities of tabernanthine (13-methoxyibogamine) and ($\pm$)-ibogamine for sigma2 sites were similar to that of ibogaine. O-Desmethylibogaine, had a markedly reduced affinity for sigma2 sites ($K_i \sim 5$ μ M) and also lacked affinity for sigma1 sites. The related alkaloids, ($\pm$)-coronaridine [($\pm$)-18-carbomethoxyibogamine] and harmaline lacked affinity for both sigma receptor subtypes. O-t-Butyl-O-desmethylibogaine inhibited radioligand binding to sigma1 sites with a $K_i \sim 3.5$ μ M and sigma2 sites with a $K_i \sim 346$ nM [c.f. Bowen et al, (72)]. The much higher affinity of ibogaine for sigma2 sites compared to sigma1 sites was also reported by Mach et al., (194). Bowen et al., (195) examined the ability of ibogaine and related compounds to modulate calcium release from intracellular stores in indo-1 loaded human SK-N-SH neuroblastoma cells. Consistent with its affinity at sigma2 sites, ibogaine produced a concentration-dependent increase (13-45%) in intracellular calcium levels. O-Desmethylibogaine, was ineffective in this measure at concentrations up to 100 μ M. These data suggest that the shared in vivo effects of ibogaine and O-desmethylibogaine are probably not mediated by sigma sites.

TOP

J. Miscellaneous Actions of Ibogaine.

Deecher et al., (165) reported that ibogaine (up to 100 μ M) did not inhibit radioligand binding to cannabinoid receptors. Ibogaine and O-desmethylibogaine had no influence on basal or forskolin-stimulated adenylyl cyclase in the rat frontal cortex, midbrain or striatum (182). O-Desmethylibogaine, but not ibogaine, produced concentration - dependent increases in the generation of [3H]inositol phosphates that were not altered by inclusion of tetrodotoxin, cadmium or omega-conotoxin (196). These results suggest that the effect of O-desmethylibogaine on phosphoinositide hydrolysis was not secondary to the release of one or more neurotransmitters. Ali et al., (45) reported that ibogaine (0.5-250 μ M) reduced nitric oxide synthase activity in mouse brain; similar effects were noted in the striatum, hippocampus and cerebellum of mice treated parenterally with ibogaine (50 mg/kg). In radioligand binding studies, no effect of ibogaine has been found on alpha1, alpha2 or beta1 adrenergic receptors (165). Moreover, ibogaine (20 mg/kg) did not modify cerebral noradrenaline levels in rats (197). Binienda et al., (140,198) reported that although ibogaine (50 mg/kg) challenge in rats was associated with a decrease in delta, theta, alpha and beta power spectra of cortical EEG during the first 30 min, and subsequent recovery of all except delta bands in the next 15 min, MK-801 (1 mg/kg) treatment was followed by a decrease in power of all four frequency bands for the entire time of recording. The selective power decrease in delta EEG frequency band of the cortical EEG may suggest the activation of dopamine receptors.

In the anesthetized rat, ibogaine produced a slight hypoglycemia (60). After administration of 50 mg/kg of ibogaine, elevations of corticosterone levels were noted 15 - 120 min, but not 24 hours later (170,171,173). The same dose of ibogaine rapidly and transiently increased plasma prolactin levels (171,173). Bunag and Walaszek (199) reported that ibogaine antagonized the contractile responses produced in guinea pig ileum by substance P and angiotensin. Alburges and Hanson (200) reported that ibogaine administration produced increases of neurotensin-like immunoreactivity in striatum, nucleus accumbens and substantia nigra and substance P -like immunoreactivity in striatum and substantia nigra. Ibogaine or harmaline suppressed several (T-cell regulatory and effector, B-cell, and natural killer cell) immune functions in vitro (201). Van Beek et al., (17) reported that ibogaine showed activity against the gram-positive *Bacillus subtilis*. Ibogaine did not alter colonic temperature in mice, nor did it affect morphine- or kappa [U-50,488H]-opioid induced hypothermia (121).⁴⁶

Effects

Von den Indolalkaloiden ist [Ibogain](#) das wirksamste.^(#11) [Ibogain](#) ist ein MAO-Hemmer (Mono-Amin-Oxidase-Hemmer).^(#31) Deshalb koennte womoeglich [Ibogain](#) auch als Antidepressiva eingesetzt werden, denn viele MAO-Hemmer sind Antidepressiva. Aber MAO-Hemmer spielen auch eine wesentliche Rolle bei der Rauschdroge Ayahuaska. Die amazonische Rauschbruehe wird ja aus beta-Karbolinalkaloiden, welche auch MAO-Hemmer sind (worauf die orale Wirksamkeit von ayahuaska beruht), und [halluzinogenen Tryptaminen](#) zusammengesetzt. Dazu werden verschiedene Pflanzenauszuege verwendet. [Ibogain](#) koennte theoretisch die beta-Karbolinalkaloide ersetzen, ist jedoch selbst vermutlich zu giftig und mit unangenehmen Nebenwirkungen verbunden, als dass es jemals eine Rolle als Antidepressiva oder MAO-Hemmer fuer die Bereitung einer ayahuaska-aehnlichen Rauschdroge dienen wird.^(eigen) In geringen Dosen ist es zentral stimulierend^(#11, #31, #36, #45/235) und aphrodisierend. In hohen, lebensgefaehrlichen, Dosen wird es erst halluzinogen.^(#11, #36, #45/235) Es fuehrt in giftigen Dosen zu Kraempfen, Laehmungserscheinungen und schliesslich durch Atemstillstand zum Tod. Es kann in diesem lebensgefaehrlichen Dosisbereich auch Halluzinationen ausloesen.^(#11) Es ist auch ein Cholinesterasehemmer.^(#45/238) Bei Ueberdosen koennen 4-5 Tage lethargische Zustaeude bestehen, aber auch der Tod eintreten.^(#45/236)⁴⁷

Duration and Typical Stages of the Iboga Experience

The effect of ibogaine last between 15 and 36 hours, depending on the dose and the individual metabolism. A longtime addict should allow her-/himself a convalescent period of one to three days after the 2 days dedicated to ibogaine. Methadone users should allow themselves at least a week.⁴⁸

⁴⁶ http://www.ibogaine.org/alkaloids.html#_Toc444360981

⁴⁷ <http://catbull.com/alamut/Lexikon/Pflanzen/Tabernanthe%20iboga.htm>

⁴⁸ <http://www.ibeginagain.org/treatment.shtml>

Duration lasted anything from 12hrs to 6 days although the latter was extremely unusual. Generally people would hallucinate for up to 12 hours and then enter stage 2, which was characterised by introspective reflection. Not much communication would take place but restlessness would begin to be apparent after the 12th hour (except for those who were hit really hard). Stage 2 could last up to 24 hours plus and then would move into a desire for sleep and discomfort in the body. At this point I would offer valiums to help the subject sleep if they were distressed by the discomfort and inability to sleep. After waking from the sleep (however short that may have been) they usually moved into stage 3 characterised by optimism and an experience of reset. They were aware they were clean and were happy about it at this point. With some people physical discomfort lasted some days in which case they would stay longer at the farm. I would say 5 out of the 18 people treated suffered extremely physically. Getting sick at the 12 hour point and then retching for the next 12 hours or so. Followed by a weakness and nausea that could continue for another 12 hours (24 in total). Any longer than that and I would assume that withdrawal was taking place. This happened more frequently with women than men (see discussion on women). This is something I have never been entirely clear on and may warrant discussion in the manual. If someone is very sick 12 hours into the experience what can one do and does it indicate withdrawal symptoms (the nausea was usually accompanied by sweats and cramps and leg twitching). Can we administer anti nauseates at this stage and will they help? This is not something I experimented with. The problem with the vomiting was that it was often dry retching as there was obviously nothing to bring up. This can tear the oesophageal lining, which I believe can be dangerous. I would definitely want some information on how to alleviate this or prevent it from happening. I treated one woman who had an experience for about 8 hours, 4 of which included hallucinating. She then however went into severe withdrawal for the next five days (during which I stayed with her). I concluded from this and from my other experiences with women that women needed as much if not more ibogaine than men, something contrary to what I had read. I had always been led to believe that women should have a slightly lower dose (DR Mash advised this) but as a result I found that ibogaine didn't work as efficiently for women as for men.

In the final stage of the treatment counselling occurred. I would sit and talk with the subject about their experience and about any issues that had arisen. I found people to be much more open post ibogaine and much more willing to engage especially if the experience had been strong for them. Occasionally people would be in a very negative space and want to leave possibly to score. If this was the case I would encourage them to stay another night and take advantage of the facilities at hand - fresh organic food, walks, massage, floatation tank, ozone tank. This was definitely beneficial as each time this happened people really thanked me for encouraging them to stay as they had just needed more time. Most people stayed with me for 3 days. Some 4 days and only one 7 days.⁴⁹

Short:

This depends, to some extent, on the purpose for which the ibogaine is being ingested. A long-term heroin addict will not necessarily have the same experience as a patient wanting a resolution to chronic depression, post-traumatic-stress-syndrome or anxiety.

⁴⁹ <http://www.ibogaine.org/wells.html>

Nevertheless, all will find that their treatment involves both physical, psychological, and spiritual dimensions.

- * 40 minutes after ingestion a buzzing in the ears heralds dreamlike visions, dancing lights, flashes of images, symbolic or actual representations of current subconscious themes.

- * Some 2 to 4 hours later "the waken dreams" will slowly fade away giving room to what is often described as resetting the biochemistry of the brain, i.e. an integration of the first phase.

- * 20 to 36 hours after ingestion the last signs of dizziness, ataxia, inability to sleep will disappear and the patient is fully functional again.⁵⁰

Mechanisms of Action

The following has been taken from: The Ibogaine Medical Subculture (Section 1.4), Journal of Ethnopharmacology 115 (2008) 9-24. Authors: Kenneth R. Alper, Howard S. Lotsof, Charles D. Kaplan.

"Initially, ibogaine's mechanism of action was hypothesized to involve antagonism at the N-methyl-d-aspartate-type glutamate (NMDA) receptor (Skolnick, 2001). However, 18-MC, which has negligible NMDA receptor affinity, also reduces opiate withdrawal and drug self-administration in the animal model (Glick et al., 2001). Antagonism of the $\alpha 3\beta 4$ nicotinic acetylcholine receptor (nAChR) is a possible mechanism of action, as indicated by a series of studies of iboga alkaloids and nicotinic agents (Fryer and Lukas, 1999; Glick et al., 2002a,b; Pace et al., 2004; Taraschenko et al., 2005). The $\alpha 3\beta 4$ nAChR is relatively concentrated in the medial habenula and interpeduncular nucleus, where 18-MC's antagonism of $\alpha 3\beta 4$ nAChRs diminishes sensitized dopamine efflux in the NAc (Taraschenko et al., 2007a,b).

Ibogaine's mechanism of action has frequently been suggested to involve the modification of neuroadaptations related to prior drug exposure (Rabin and Winter, 1996b; Popik and Skolnick, 1998; Alper, 2001; Glick et al., 2001; Sershen et al., 2001; Levant and Pazdernik, 2004). Ibogaine may modulate intracellular signaling linked to opioid receptors, and potentiates the morphine-induced inhibition of adenylyl cyclase (AC) (Rabin and Winter, 1996b), an effect that is opposite to the activation of AC that is classically associated with opioid withdrawal (Sharma et al., 1975). In animals, ibogaine enhances the antinociceptive effect of morphine or other opioids without by itself having an effect on nociception (Schneider and McArthur, 1956; Schneider, 1957; Frances et al., 1992; Bagal et al., 1996), and inhibits the development of tolerance to morphine antinociception (Cao and Bhargava, 1997). Prior exposure to morphine potentiates ibogaine's diminution of sensitized dopamine efflux in the NAc in response to morphine (Pearl et al., 1996) or ibogaine's enhancement of morphine antinociception (Sunder

⁵⁰ <http://www.ibeginagain.org/treatment.shtml>

Sharma and Bhargava, 1998), suggesting an effect on neuroadaptations related to opioid tolerance or dependence.

Increased glial cell line-derived neurotrophic factor (GDNF) in the ventral tegmental area has been suggested to mediate decreased ethanol consumption following the administration of ibogaine to rats (He et al., 2005; He and Ron, 2006). GDNF enhances the regeneration of dopaminergic function (Ron and Janak, 2005) and is increased by antidepressant treatment (Hisaoka et al., 2007). The hypothesis that GDNF may mediate improvement in hedonic functioning and mood in chronic withdrawal from addictive substances is appealing, but does not appear likely to explain efficacy in acute opioid withdrawal.

Although designated as a hallucinogen, ibogaine's use in opioid withdrawal distinguishes it from other compounds that are commonly termed "psychedelics", namely the serotonin type 2A receptor agonist classical hallucinogens such as lysergic acid diethylamide (LSD), psilocybin and mescaline, or the serotonin releasing substituted amphetamine 3,4-methylenedioxymethamphetamine (MDMA). In contrast with ibogaine, there is no preclinical or case report evidence that suggests a significant therapeutic effect of classical hallucinogens or MDMA in acute opioid withdrawal. Ibogaine's effects in opioid withdrawal do not appear to involve serotonin agonist or releasing activity (Wei et al., 1998; Glick et al., 2001). Serotonergic neurotransmission does not appear to play a significant role in mediating the expression of the opioid withdrawal syndrome, which remains unchanged even after extensive lesioning of the raphe (Caille et al., 2002).

The phenomenology of the subjective state produced by ibogaine has been attributed with the quality of a "waking dream" and distinguished from the state associated with classical hallucinogens (Goutarel et al., 1993; Lotsof and Alexander, 2001). The visual phenomena associated with ibogaine tend to occur with greatest intensity with the eyes closed, and to be suppressed with the eyes open, and often involve a sense of location within an internally represented visual or dream landscape, in contrast to an alteration of the visual environment experienced with the eyes open while awake which is often reported with classical hallucinogens. The occurrence of an atropine-sensitive electroencephalogram (EEG) rhythm in animals treated with ibogaine (Schneider and Sigg, 1957; Depoortere, 1987) suggests a waking neurophysiological state with an analogy to rapid eye movement sleep (Goutarel et al., 1993; Alper, 2001)."⁵¹

Ibogaine for Self-development

The use of ibogaine is not restricted to those seeking to beat drug or alcohol dependence. Individuals seeking personal development, access to more "spiritual" sides of their nature, or a breakthrough in overcoming a psychological block may also find the drug useful.

⁵¹ <http://www.myeboga.com/mechanisms.html>

What is especially interesting about ibogaine is that it allows the user access to the unconscious with the ego perspective relatively intact, that's to say, in relatively normal consciousness. In addition, the intensity of the experience can usually be regulated to some degree, the dreamlike visions normally ceasing once the eyes are opened. Another interesting aspect is that, despite its origins, the visions that occur with ibogaine do not appear to feature the "plant teacher" figures common to the visionary experiences associated with entheogens like ayahuasca or peyote, but rather appear to consist of a more direct encounter with one's self.

These benefits have resulted in ibogaine being used as an adjunct to therapy by a handful of psychotherapists over the years, most notably Chilean psychiatrist Claudio Naranjo, who details some sessions in his book, *The Healing Journey*. The objective of an ibogaine session is invariably to allow the individual to become aware of unconscious processes that may be blocking their personal development. Ibogaine appears particularly suitable for this task with users frequently reporting that the drug gave them a "hotline to their own personal guru."

Whilst ibogaine may seem like an ideal "personalized high-speed psychotherapy" to some, there are however problems with using ibogaine for personal development work, especially outside of the professional psychotherapeutic context. The dose for therapeutic use is usually around 5-8mgs per kilo bodyweight, and whilst this is undoubtedly a far safer amount than the 20mg/k dose sometimes used to treat opiate addiction, the experience can still prove both physically and emotionally gruelling for some. It is important that the individual's physical and psychological integrity is reliably assessed prior to taking the drug, or, when ibogaine is being considered as a "last ditch" strategy, a risk-benefit assessment made with regard to any potential gain or loss that may occur.

For those thinking of taking ibogaine for personal development who haven't yet been involved in therapy, it is important to be aware that using the drug may appear attractive simply because it represents a treatment that avoids the formal psychotherapeutic process. If this is the case, there is a possibility that ibogaine could make problems worse. When a lot of repressed material is present, and for many brought up in the West this will inevitably be the case, psychoactive drug usage can sometimes invoke dangerous reactions as defence mechanisms struggle to keep down rising painful material. This can result in delusional or neurotic beliefs that persist long after the session is over.

It is also important to realize that using ibogaine alone will unlikely be sufficient to bring about deep personal transformation. The drug typically gives people mental insights into repressed aspects of their psyche, but without significant emotional connection. Other therapeutic work, ideally something with a strong cathartic element, is highly recommended to allow the experience to be properly processed.

Iboga Visions

Interpreting the dreamlike visions of the ibogaine experience can prove a fascinating yet difficult task. The "oneirophrenic" phase of the session frequently throws up much material from the unconscious, and whilst the later, "processing" phase of the session, characterized by many hours of frenzied mental activity, may shed light on the meaning of what has been seen for some, as often as not the individual emerges from the session little wiser as to the significance of what they have experienced.

Because ibogaine visions frequently reveal the presence and nature of deeply sensitive issues, cloaked in symbolism, their subsequent misinterpretation is understandably common. This section will therefore cover some basic aspects of the iboga visionary experience such that individuals using the drug might better benefit from the experience.

It is worth remembering that, no matter what they may appear to be about, ibogaine visions invariably contain much personal content. One symbolic device that often appears to be used by the drug is the cloaking of personal issues as world affairs, frequently either political or ecological scenarios that appear to threaten the planet.

One example of this is that of the opiate user who experienced being shown that mankind was an evolutionary mistake that was now destroying the world - the revealing of deep-rooted feelings of lack of self-worth. Another example is the individual, whose father had exerted an excessively controlling influence over his childhood, who experienced being shown that the world was under the control of elite banking groups. Whilst the scenario experienced may appear valid to the individual, and may indeed even be valid, it should be remembered that there will invariably be much personal significance.

Psychologically, the action of ibogaine is always to attempt to bring repressed material to light - to make conscious what is unconscious. This it does at a rate frequently too fast for an individual to fully process and integrate during the session itself. Experience also indicates that for many this release appears to continue long after the drug has left the system. Consequently, even when little has been experienced visually, it is common for the individual to emerge from the session with their defences overwhelmed by rising unconscious material. It is for this reason that I recommend that the drug only be used by those regularly involved in therapy, and particularly therapeutic structures revolving around the cathartic release of emotions and their bodily integration - Bioenergetics, Primal Therapy, Dynamic Meditation, Lowen Technique, Humaniversity Therapy, or similar. Where this is not undertaken, the inexperienced user may find themselves drawn to bizarre belief patterns or perhaps excessively concerned with issues of "control" for a period of time, perhaps even years, after taking ibogaine. Issues relating to mother or father may be projected onto younger women or older men and there may be a tendency to retreat "into the head," to avoid confrontation with issues of sexuality and personal power. All such patterns should pass with time, and the process of integration may be considerably speeded up by undertaking suitable therapy.⁵²

⁵² <http://www.ibogaine.co.uk/ibogaine6.htm#six>

The Clinical Significance Of Ibogaine Visions

There is evidence to suggest that ibogaine has been particularly efficacious for addressing physical opioid withdrawal signs [\(20,25,26\)](#). Reports over a period of more than three decades also suggest that ibogaine may be effective in reducing the craving that drives opioid (21) and cocaine dependence [\(27\)](#). The use of ibogaine to attenuate cocaine self-administration has been published in independent preclinical research studies by Cappendijk, and Sershen and Glick, and its ability to attenuate alcohol self-administration has been studied by Rezvani [\(28-31\)](#). Preclinical studies showing ibogaine's influence on drug place preference and learning, which are models of craving, are reported by Parker et al. [\(32\)](#). Double-blind clinical studies are needed at this time to verify the efficacy indicated in informal reports that have come from at least a dozen countries.

The self-reports that have been included in this chapter allow a review of the similarities of ibogaine effects that are consistent to the experience across multiple subjects. The most consistently reported ibogaine effect appears to be that of oneirophrenia, or the experience of apparently dreaming while awake. A question exists as to whether this phenomenon is significant to the antiaddictive action of ibogaine or separable from it. This issue may eventually be resolved should an iboga alkaloid devoid of oneirophrenic effects be developed, tested, and proven to have antiaddictive properties similar to ibogaine.

Whether the visualization or dreamlike experience of ibogaine is important or not, it is widely reported in the clinical literature (1,8,9,11,13-21). While the reports of dreamlike effects within the ibogaine experience are common, they do not invariably occur. Some ibogaine-treated subjects indicate that they did not experience oneirophrenia and proceeded directly to the stage of cognitive evaluation, which is generally considered to be the second phase. In some cases, visual images are reported during the actual experience, but are not apparently recalled afterward. Patients generally recall only a few of many images that they may have seen, similar to normal dreaming. It is difficult to assess whether the patients denying visualization after the fact simply do not recall the images, or that the images are so personal that the individuals do not wish to share them, or that visualization was simply not experienced.

The self-reports, the first example of which is found in Section II concerning drug user groups, provides an example of limited visualization occurring during the period when the majority of subjects have reported a rich and varied tableau. The self-report in Section II states, "Then I would have this weird image of a twisted stick or root being shook rapidly, accompanied by a deep sound something like a didgeridoo. When I had this image the rocking would stop . . . I kept feeling like something else was going to happen although nothing else did. This went on for what seemed about 5 or 6 hours." In keeping with normal expectations during the cognitive evaluation or second stage of ibogaine activity, the subject reports "After the first few hours, I spent the next 20 hours or longer, I really can't remember how long but it was long, thinking about everything under the sun."

The above example should be compared with the reports found in Section III, the self-help section, and Section IV, the clinical environment section in which the authors of those reports indicated more varied and significant visual material. Whether the more extensive review of visual material may be responsible for the longer duration of time free of craving and drug use will require additional research. The two individuals

reporting greater oneirophrenic effects remained either drug or craving free for approximately a year after a single ibogaine treatment, while the individual reporting minimal visualization, by comparison, had a drug-free period of only months.⁵³

Subjective new experiences described by patients treated with ibogaine

Preliminary data shows that npatients experience several different phases that may be categorized into acute, evaluative, and residual stimulation stages (Figure 3).⁸ The first phase (acute phase) is experienced within first 1–3 h after exposure and lasts 4–8 h. During this phase, patients report panoramic delivery of long-term memory, mainly visual; “visions” or “waking dream” states experiencing contact with transcendent beings, passage along a lengthy path, floating, etc. Although visual experiences are not reported by all patients and seem depend of drug exposure, it is also noticed that they were associated and enhanced with eye closure. Unfortunately, difference between these dreams and hallucinations are not clear enough. The second phase (evaluative phase) starts approximately 4–8 h after ingestion and lasts 8–20 h. During this phase, dreams decreased slowly and the emotional tone is generally described as neutral and reflective. Patients reflect that their attention is focused on inner subjective experiences (i.e., by evaluating the experiences of the acute phase). During these two first phases, patients tend to stay focused on their experiences and avoid any external distraction. The third phase (residual stimulation phase) starts 12–24 h after exposure and lasts 24–72 h. Patients regain normal attention to the external environment. Subjective psychoactive experience lessens, remaining with mild residual subjective arousal or alertness. Decrease in the need to sleep for several days to weeks can be observed.⁵⁴

Stimulating Effects

Ibogaine, among its many distinct actions, exerts a stimulant effect that may last 48 hours or longer. There are a minority of patients who may sleep within 24 hours and one instance of a psychotic patient in Europe administered Ibogaine who did not sleep for 7 days. All patients are informed about Ibogaine's stimulant action, but most dismiss it during discussions prior to treatment stating that they have stayed awake for days. It is provided to these patients that such actions on their part were usually due to the use of narcotics and/or stimulants, however, it is not until the patients are actually treated with Ibogaine that it becomes clear that Ibogaine's stimulant action is distinct from those experienced with heroin and/or cocaine.

Approximately 20 hours post Ibogaine administration all patients exhibit exhaustion concurrent with restlessness and the inability to sleep. This is seen in Ibogaine only patients, narcotic dependent patients, cocaine dependent patients and poly-drug dependent patients.⁵⁵

⁵³ <http://www.doraweiner.org/alexanderlotsof.html>

⁵⁴ <http://het.sagepub.com/cgi/content/abstract/27/3/181>

⁵⁵ <http://www.ibogaine.org/ibonarco.htm>

Vomitting

Vomiting is experienced by approximately 30% of patients to whom Ibogaine is administered whether they are narcotic dependent or not (Naranjo, 1969, 1973 & Lotsof, 1995). Vomiting under the effects of Ibogaine are specifically potentiated by movement and patients should be allowed to remain as still as possible. This is of course problematic under clinical research conditions where neurological testing requiring movement occurs and must be taken into account. Under the conditions of Ibogaine therapy, patients should remain still and in bed.

It should also be noted that there is a distinction between the subjective effects of vomiting induced by Ibogaine and vomiting induced by narcotic withdrawal. This distinction has been provided in interviews by the majority of patients who have exhibited vomiting. Vomiting due to Ibogaine is acute. The incident occurs, is generally brief and the event is over. If vomiting occurs on Ibogaine on a number of occasions, the incidents generally follow similar experiences of brevity.

Vomiting produced by narcotic withdrawal has been subjectively described by patients as chronic, prolonged and more extensive than that produced by Ibogaine.

Yawning is a sign rarely seen in Ibogaine only or Ibogaine treated narcotic dependent patients and is associated with the protracted stimulant effect believed caused by Ibogaine's principal metabolite, desmethyl ibogaine. Diarrhea occurred in a few patients approximately six days after treatment with Ibogaine and was controlled with a single dose of anti-diarrhea medication.

While preclinical research (Dzoljic 1989 and Glick 1992) demonstrate only partial elimination of narcotic withdrawal signs, the human experience provides for virtual elimination of withdrawal signs including diarrhea, rhinorrhea, piloerection lacrimation, mydriasis, shivering, muscle twitches, abdominal cramps and anxiety. Sweating is exhibited in 16% to 25% of the narcotic dependent patients treated with Ibogaine. It was seen in 16% of the non Dutch patients and in 25% of the total patient group with the inclusion of the Dutch patients. It may be hypothesized that the distinctions among the Dutch and other patients may be due to the method of administration that for the Dutch was smoking or possibly to distinctions in the type of heroin that in The Netherlands was a brown variety or to the potency of the heroin.

It should be noted that all patients treated with Ibogaine had undergone some other form(s) of treatment for narcotic withdrawal and that the patients almost universally considered Ibogaine to be more effective, more humane and to provide greater dignity in the withdrawal process.

The most unique effect in the treatment of narcotic withdrawal for the researchers was the finding that Ibogaine had the ability to attenuate narcotic withdrawal signs during the 2 to 4 day treatment period not only for heroin, but for Methadone as well. Patients using up to 180mg/day of Methadone were treated with Ibogaine. Patients using up to 120mg/day

of Methadone were detoxified to abstinence. In one case where Dutch addict self-help groups treated a couple, each using 180mg/day of methadone, the patients reduced their Methadone use to 30mg/day. In discussion with the late Nico Adriaans, one author suggested that under these circumstances the treatments might be considered to be unsuccessful. Mr. Adriaans replied, that they "Were a considerable success as no one in the Dutch Methadone establishment had ever seen a reduction of 180mg/day of Methadone to 30mg/day of Methadone in a 1 week period without extreme discomfort." Mr. Adriaans was a field worker for the European Addiction Research Institute at Erasmus University Rotterdam, as well as one of the motivating forces in the Dutch addict self-help movement.

While this paper briefly treats Ibogaine's effects on objective signs of narcotic withdrawal, one of the aspects of Ibogaine that makes it particularly interesting in the treatment of substance-related disorders is Ibogaine's ability to interrupt the craving to seek and use opiates, stimulants, alcohol, nicotine or combinations of those drugs seen in poly-drug dependent patients (Kaplan, 1993; Lotsof, 1985, 1986, 1989, 1991, 1995; Sheppard 1994 and Sisko 1993).

The effects of Ibogaine on opiate withdrawal are clearly defined in the chart: Objective Opiate Withdrawal and Ibogaine Signs: Human Observations, that follows.

The issue of objective signs of anxiety experienced by 3% of Ibogaine treated narcotic dependent patients are believed to be expressions of trauma (Bastiaans, 1991) and will be discussed in future publications.⁵⁶

Near Death Experiences

According to the Mitsogho, the initiate will see the Bwiti only twice in his life: on the day of his initiation and on the day of his death.

This means that the visions at the approach of death, what are called near death experiences (NDE), are the same as those termed normative visions.

We know that at the time of dying, some individuals see their whole life pass before them. In those who are "rescued from death", a spectacular transformation is observed. They no longer fear death, they feel stronger, more optimistic, calmer, and contemplate their life more positively.

Two Americans, the psychiatrist Raymond Moody³⁹ and the cardiologist Michael B. Sabom⁴⁹ have been particularly interested in the oneiric manifestations of NDE.

After a statistical study of 150 people "rescued from death", M.B. Sabom established a chart of these manifestations.

⁵⁶ <http://www.ibogaine.org/ibonarco.htm>

Sabom chart

Autoscopic phase

1. Subjective feeling of being dead
2. Peace and well-being
3. Disembodiment
4. Visions of material objects and events

Transcendental phase

5. Tunnel or dark zone
6. Evaluation of past life
7. Light
8. Access to a transcendental world

Entering in light

9. Encounter with other beings
10. Return to life

Most of these manifestations are to be found in the Mitsogho Bwiti. Starting at the 3rd stage, a peaceful and agreeable vision, disembodiment; the neophyte feels himself wrapped up by a wind that carries him off to an unknown village without beginning or end; a vision of two extraordinary Beings, Nzamba-Kana, the first man and Disumba, the first woman on earth. The village is covered by sparks, then a brilliant ball of light appears, the sun, and the moon and the stars. The sun is transformed into a handsome youth, the Master of the World, and the moon into a beautiful woman, his wife, the mother of his children, the stars. The wind carries the initiate back to earth where he is reborn and is greeted with joy and pride by the elders.

In the Fang Bwiti, where we have a syncretism between the religion of the ancestors and Christianity, it is difficult, because of many divergent forms, to describe a coherent whole corresponding to the normative visions of the Mitsoghos.⁵⁷

Side-Effects

<http://www.ibogaine.org/ibonarco.htm> tabelle mit sideeffects diareha etc

Preclinical Safety Studies

Several safety studies were performed during preclinical development. These studies raised several safety concerns, mainly neurotoxicity and possible cardiotoxicity. Multiple laboratories have reported on the degeneration of cerebellar Purkinje cells in rat receiving i.p. administration of ibogaine at a dose of 40–100 mg/kg.^{51,74,80} These include abnormal motor behavior (such as tremors, ataxia) related to histologically proven neurotoxicity.⁸⁰ Single-dose investigations showed that a 25 mg/kg i.p. dose was

⁵⁷ <http://ibogaine.desk.nl/bwiti1.html#neardeath>

found to correspond to a no-observed adverse effect-level (NOAEL).⁸¹ Helsley, et al. observed no evidence of neurotoxicity in a study where rats received 10 mg/kg of ibogaine per day for 60 days.⁸² However, the neurotoxic effects of ibogaine may occur at levels higher than those observed to have effects on opioid withdrawal and self-administration. The monkey appears to be less sensitive to potential ibogaine neurotoxicity than the rat.⁴ Mash, et al. observed no evidence of neurotoxicity in monkeys treated for 5 days with repeated oral doses of ibogaine of 5–25 mg/kg or subcutaneously administered doses of 100 mg/kg.⁴ Another species difference in sensitivity is the mouse, which unlike the rat showed no evidence of cerebellar degeneration at a 100 mg/kg i.p. dose of ibogaine.⁸³ Animal studies showed certain cardiotoxicities. Observed cardiotoxicity could be dose dependent. No changes in resting heart rate or blood pressure were found at a dose of ibogaine of 40 mg/kg i.p., which has been used in drug withdrawal or self-administration studies. Higher doses of ibogaine (100 and 200 mg/kg) decreased the heart rate without an effect on blood pressure.⁸⁴ However, Binienda, et al.⁸⁵ found a significantly decreased heart rate in rats given ibogaine 50 mg/kg i.p. The lethal dose 50% of ibogaine was 145 mg/kg i.p. and 327 mg/kg intragastrically in the rat, and 175 mg/kg i.p. in the mouse.²⁸ In conclusion, preclinical development showed that ibogaine is acting on several mediators in CNS that have been targeted in treatment of drug dependence. Neurotoxicity and cardiotoxicity are safety concerns to be investigated further. No sufficient long-term safety non-clinical studies are available. All these data make further investigation of ibogaine's activity as potential therapeutic agent biologically plausible.⁵⁸

Clinical Safety

Neurotoxicity observed in animal studies was also noticed in human studies (e.g., effects in postural stability, body tremor, and appendicular tremor). In 1994, a fatal case of woman treated with ibogaine was reported. Fifteen months before her death, this woman had undergone four separate treatments with ibogaine in rather high dosages (ranging from 10 to 30 mg/kg). Death was not attributed to ibogaine but was related to mesenteric arterial thrombosis related to chronic cellulitis.^{4,8} Similar to the findings in animals, some cardiac side-effects were also observed during clinical investigations.^{8,94} Thirty-nine patients dependent on cocaine and/or heroin, who received fixed oral doses of ibogaine of 500, 600, 800, or 1000 mg, were monitored. Six subjects exhibited some significant decrease of resting pulse rate; one of them evidenced a significant decrease in blood pressure (attributed to a transient vasovagal response). No evidence of electrocardiogram abnormalities was showed. There were hypotensive episodes (responsive to volume repletion) noticed during ibogaine therapy in some cocaine-dependent subjects.⁴⁹ The safety of ibogaine was also evaluated in more than 150 drug-dependent subjects receiving 8, 10, or 12 mg/kg ibogaine.⁴⁹ The most frequent side-effects encountered were nausea and mild tremor, and ataxia earliest after drug administration. A hypotension was observed in some cocaine-dependent subjects, who required close monitoring of blood pressure. No other significant adverse events were seen under the study conditions; and, therefore, there are no clear evidences till now that

⁵⁸ <http://het.sagepub.com/cgi/content/abstract/27/3/181>

there are big issues in tolerance after single dose of ibogaine. In conclusion, clinical development could be considered as started only and needs essential exploratory program first.⁵⁹

Ibogaine Related Fatalities

The purpose of this table is to attempt to clearly state what is known regarding ibogaine & eboga related fatalities which are in the public domain. Other deaths most likely have occurred but due to the underground nature of ibogaine treatment, remained unreported. Quotations are direct extracts from the stated source.

It is worth bearing in mind that for some ibogaine is a last resort from inevitable death. It is also worth taking the following into account: in 1999 there were 116,000 drug related fatalities in United States hospitals associated with FDA approved medications.

The chemically dependent population diagnosed with dependence disorders (where ibogaine related deaths take place) have a mortality rate significantly higher than the general population (3 to 7 times), withdrawal itself being a physically taxing experience which may precipitate adverse medical conditions.

Before looking at the fatalities table below it is worth noting the following:

Ibogaine vs Methadone Fatalities

Ibogaine/iboga (all known treatment episodes [TEs] 1989-2006): 11 fatalities in 3,414 TEs (1 ibogaine-related death/427 TEs)¹

Methadone (Australia 2000-2003; national registration data): 282 methadone-related death in 102,615 TEs (1 methadone-related death /364 TEs)²

Methadone (Utah 2004; Controlled substance and medical examiner data bases): 110 fatalities in which medical examiner made mention of methadone in attribution of cause of death, 52,350 methadone prescriptions (1 methadone-related death /476 methadone prescriptions)³

1. Alper, K.R., Lotsof, H.S. and Kaplan, C.D., (2008). The ibogaine medical subculture. *Journal of Ethnopharmacology* 115, 9-24.
2. Gibson, A.E. and Degenhardt, L.J., (2007). Mortality related to pharmacotherapies for opioid dependence: a comparative analysis of coronial records. *Drug and Alcohol Review* 26, 405-410.
3. Sims SA, Snow LA, Porucznik CA (2007): Surveillance of methadone-related adverse drug events using multiple public health data sources. *Journal of Biomedical Informatics* 40:382-389.

These figures suggest that the number of deaths due to methadone, the most controlled substance, are a little higher than those associated with ibogaine, which is totally unregulated. If ibogaine was administered in the proper medical setting following conventional wisdom this figure should drop dramatically highlighting the safety benefits

⁵⁹ <http://het.sagepub.com/cgi/content/abstract/27/3/181>

of ibogaine, an addiction interruptor, over methadone, a highly addictive addiction maintainer - more addictive than heroin and harder to detox from.

Many of these ibogaine TE's (Treatment Episodes) did not take into account the suitability of the individuals for treatment (see Manual for Ibogaine Therapy, Screening, Safety, Monitoring & Aftercare by Howard Lotsof & Boaz Wachtel, USA.) nor the circumstances under which treatment was taking place and should not have been carried out.

Ibogaine, is a very powerful medication at the doses required for detox and thus, if not respected, can lead to death.

Please Note:

As things stand the actual sequence of events, bio-chemically speaking, which lead to death in someone who has taken ibogaine is not known, i.e., no one knows why, medically speaking, ibogaine sometimes leads to death. There is simply a lack of experimental data, regardless of speculation.

However, it is interesting to note the circumstances surrounding these incidents and for that reason this table is provided:

Year/Details

Circumstances

Observations

1990 - 44 year old woman during group therapy session.

4.5 mg/kg p.o. Ibogaine: A Review, Kenneth R. Alper, Chapter 1:

"In June 19135, a 44 year-old woman died in France approximately 4 hours after receiving a dose of ibogaine of about 4.5 mg/kg p.o. The cause of death was concluded to have been acute heart failure in an autopsy carried out at the Forensic-Medical Institute in Zurich (176). Autopsy revealed evidence of a prior myocardial infarction of the left ventricle, severe atherosclerotic changes, and 70 to 80% stenosis of all three major coronary artery branches. This patient had a history of hypertension, and inverted T waves were noted on EKG three months prior to the patients death. The autopsy report concluded that the patients preexisting heart disease was likely to have caused the patients death, and it specifically excluded the possibility of a direct toxic effect of ibogaine. The report acknowledged the possibility that an interaction between ibogaine and the patients preexisting heart condition could have been a contributing factor in the fatal outcome."

176. W. Baer, Forensic Subsequent Autopsy/Report Case # N-138 1991. University of Zurich, Switzerland. "The autopsy report, which included information obtained from the patients family physician, and the psychiatrist who administered ibogaine, makes

reference to the possibility that the patient might have taken other drugs. The autopsy report noted the presence of amphetamine in the enzyme immunochemical (EMIT) assay of a dialysate of the kidney tissue (urine was reported not to be obtainable). This finding, however, was regarded as artifactual and possibly attributable to a false positive EMIT result due to the presence of phenylethylamine."

1993 - 24 year old female Dutch addict (Nicola K.) being treated for heroin dependency.

A total dose of 29 mg/kg. Ibogaine: A Review, Kenneth R. Alper, Chapter 1:

The patient died 19 hours later of respiratory arrest. Some evidence suggested the possibility of surreptitious opioid use in this case, which was noted in the Dutch inquiry (178) and which is another source of uncertainty in this fatality. [n.b. Ibogaine has been shown to increase the effects and toxicity of opiates (Popick and Glick, 1996).]

178. G. van Ingen, Pro Justitia No. 93221/I057, Dept. Justice, The Netherlands, Lab. Forensic Pathol., 1994. "Forensic pathological examination revealed no definitive conclusion regarding the probable cause of death (177) and cited the general lack of information correlating ibogaine concentrations with possible toxic effects in humans."

177. Court of Appeal at the Hague, Order of the Court. Cause List Number: 997179K09, 1999.

1994/April Female (Nancy), 3rd Treatment.

25 mg/kg January '93 29-31mg/kg March '93 10mg/kg 25th March '94 followed by 20mg/kg 3 days later.

The Ibogaine Story, Chapt. 18:

Prior complaint of recurrent intestinal malaise and diarrhea. "On April 21, though, she flew back down to Miami for a medical exam at the U. of Miami--part of the followup to her Panamanian re-treatment. No ill-effects of Ibogaine--but still no explanation of her diarrhea and recurrent vomiting. She was released from the hospital. Much later that evening she was found dead at the apartment where she was staying, collapsed in her vomit. Estimated time of death, 9:40 PM." "The autopsy--much more exhaustive than in previous deaths--found no discernible link to Nancy's recent re-treatment, establishing cause of death as mesenteric artery thrombosis associated with small bowel infarction (blockage), complicated by a general "hypercoagulable state" of the blood due to chronic infection in the thigh."

2000/February - 40 year old heroin addict (JW).

6 grams of T.iboga Extract. www.ibogaine.co.uk/new.htm:

"The coroner, Dr Paul Knapman, found that JW died approximately 40 hours after ingesting 6g of a Tabernanthe iboga preparation, (T. iboga is the source of numerous active alkaloids including ibogaine), in an attempt to break a lengthy heroin addiction, having had no success with other detoxification strategies."

See: Alternate explanation in next row. "It was ruled that JW died principally from a fatal reaction to Tabernanthe iboga preparation, the fact that he had suffered liver damage as a result of Hepatitis C being recorded as a secondary cause. A verdict of 'death by misadventure' was recorded." "With regard to reports that the deceased may have died as a result of ibogaine toxicity, the coroner recognised the presence of other active alkaloids in the preparation ingested by JW and made the statement that the blame for this death "need not necessarily be laid at the feet of ibogaine.""

Alternate Explanation:

2000/February - 40 year old heroin addict (JW).

6 grams of T.iboga Extract.

Lee Albert (Non-Medic):

On the basis of 6 grams of Extract (other reports state 5 grams) the amount of ibogaine consumed would appear to have been insufficient for full and complete remission of symptoms - methadone maintenance requires even higher doses. Dr. Ed. Friedrichs, a drug detox specialist has stated that "Vomiting leading to Aspiration into the Lungs can and does cause sudden death (asphyxiation / drowning). Vomiting is certainly a frequent part of narcotic withdrawal, especially if the stomach is full of food from recent eating." JW died alone, shortly after his session ended, on his own vomit while eating a sandwich.

2002/July - Young woman in Germany for psychospiritual purposes.

500mg of ibogaine HCl. www.ibogaine.co.uk/new.htm:

The death occurred about one and a half hours after taking the dose. "The woman, aged 35 years and weighing 63 kg, had used the drug previously on one occasion without problem." There appears to be no information about whether she had taken advised medical tests. "She had previously complained of problems with her heart, breast, and uterus. Medical tests, conducted at the time, failed to reveal any problems." "An autopsy apparently failed to isolate an exact cause of death." Lee Albert: "It is stated (copy of purported diary entry seen by Lee Albert) that: "as a child she had a congenital heart defect (born with a hole in her heart) and had surgery to correct it as she complained of suffering from intense pressure in her chest and the feeling that she might have a heart attack at the age of 5."

2005/Jan - subject in poor health died during a period of daily, low-dose treatment at the Ibogaine Association. MAPS: Multi Disciplinary Association for Psychadelic Studies:

"The Ibogaine Association closed briefly after the incident and reopened several weeks later after making several staff and procedural changes." MAPS reports that a copy of the autopsy report from the San Diego County medical examiner, "found that this patient died of natural causes, unrelated to ibogaine administration, although ibogaine was found

in this patient's system at the time of autopsy. The patient suffered a sudden cardiac death due to acute myocardial infarct and acute coronary syndrome. Contributory causes to the death were fibromyalgia and chronic opiate pain medication dependency."

2005/April - 43 Year old heroin addict. Private Correspondence to Ibogaine List from a Close Relative involved in treatment:

Died 3 days after an ibogaine detox in Las Vegas, Nevada. According to a relative on the Ibogaine List an autopsy stated that cause of death was due to vascular heart disease. Apparently this is something which would not show up on a standard EKG but could be detected using a stress test. "Prior EKG and liver testing had shown him to be in reasonable condition (private source)." However, what that means is uncertain as anomalies in an EKG should exclude a person from treatment. Also, hospitalization should perhaps have been considered during this treatment as the individual underwent seizures during treatment (private communication).

2006 U.S. man dies at alternative detox clinic in Tijuana.

UNION-TRIBUNE STAFF WRITERS,

By Anna Cearley and Penni Crabtree.

February 2, 2006.

"TIJUANA - A 38-year-old Santa Barbara man died Tuesday while receiving treatment at an alternative detox clinic that primarily serves U.S. citizens struggling with drug addictions. The cause of death was pulmonary thrombosis, according to an autopsy report."

Definition of Pulmonary Embolism:

The obstruction of the pulmonary artery or a branch of it leading to the lungs by a blood clot, usually from the leg, or foreign material causing sudden closure of the vessel. (Embolus is from the Greek "embolos" meaning plug.)

The risk factors for pulmonary embolism include advanced age, cancer, genetic predisposition, immobilization (especially in the hospital), pelvic or leg trauma, pregnancy, and surgery. "The association's Web site notes that it doesn't treat patients with certain health conditions, such as heart disease, uncontrolled diabetes and severe cases of hepatitis."

2006 French Scientists Investigate Fatality.

Journal of Analytical Toxicology, Vol. 30, Issue 7, pp.434-440. Pub. Sept. 2006, Received Mar. 2006.

"Distribution of Ibogaine & Noribogaine in a Man Following a Poisoning Involving Root Bark of the Tabernanthe iboga Shrub".

"In the present paper, we report for the first time the tissue distribution of ibogaine and noribogaine, the main metabolite of ibogaine, in a 48-year-old Caucasian male, with a

history of drug abuse, found dead at his home after a poisoning involving the ingestion of root bark from the shrub *Tabernanthe iboga*."

"In the blood, concentrations of ibogaine and noribogaine were 5-20 fold greater than those reported by Mash et al. (16) after a single oral dose of 800 mg of ibogaine in humans. The highest concentrations were found in the blood sample drawn at the death scene."

"The differences in the concentrations of ibogaine and noribogaine in blood drawn at the scene and blood taken at the autopsy may indicate that degradation (oxidation) of these two drugs occurred after death."

Available online at:

www.jatox.com/abstracts/2006/september/434-bressolle.html

16. D.C. Mash et al., Ibogaine: complex pharmacokinetics, concerns for safety, and preliminary efficacy measures. *Ann. N.Y. Acad. Sci.* 914: 394-401 (2000).

"The autopsy, performed about 48 h later, and histopathology examination of organs and tissues showed massive pulmonary edema with hemorrhagic alveolitis and vascular congestion, consistent with a drug overdose. No other cause of natural death was found."

French Authorities Investigate
Iboga Related Fatality July 2006.

Powerpoint Presentation at Warsaw Conference 2007 pgs 15-18: Jacques de Schryver, Journalist, France.

"The autopsy report concluded Jerry G. died from iboga uptake. The judge and the 'Procureur de la republique' (Attorney General) confirmed it was their intimate conviction. No mention was made about the part of valium and methadone in Jerry G. death."

Le Parisien, 8 août 2006 par Julien Dumond. "The autopsy showed Jerry had taken methadone and valium. He had managed to get some iboga too: between two and three coffee spoons. At the autopsy moment, the iboga was still in his stomach. It was not digested. After the post mortem digestion, the dose was one twelfth of the lethal dose (1/12th). This was 8 hours after his death."⁶⁰

U.S. man dies at alternative detox clinic in Tijuana

⁶⁰ <http://www.myeboga.com/fatalities.html>

TIJUANA – A 38-year-old Santa Barbara man died Tuesday while receiving treatment at an alternative detox clinic that primarily serves U.S. citizens struggling with drug addictions.

The cause of death was pulmonary thrombosis, according to an autopsy report. State authorities weren't planning on filing charges because Jason Sears appeared to have died of natural causes due to other health problems, a spokesman with the State Attorney General's Office said.

It was the second time in recent days that a U.S. citizen has died at a Baja California alternative health clinic. Coretta Scott King died Tuesday before receiving treatment for ovarian cancer at a Rosarito Beach clinic.

Sears was one of several U.S. patients at a Tijuana clinic, according to a city police report. The clinic – which is operated through a U.S.-based group – occupies a two-story house in a quiet Tijuana neighborhood near the beach. It has no obvious name or signs.

The clinic is operated through the Ibogaine Association, which displays a picture of the house on its Web site and provides a San Diego phone number – though a staff member reached there declined to comment on the death or provide additional information on how the program is run.

Ibogaine is a drug derived from a West African plant that can help overcome addiction and eliminate withdrawal, according to some animal research and limited case studies in humans.

But the drug can also induce powerful hallucinations, and that, along with animal studies that indicate potentially dangerous side effects, have made U.S. regulators reluctant to endorse human clinical studies. It is illegal to use the drug in the United States.

The attending physician at the Tijuana clinic, Itzcoatl Medina, said Sears was receiving treatment when he died. Medina said a pulmonary thrombosis is an obstruction in the vascular system, usually from a blood clot. Medina said that infections can sometimes lead to clots, and Sears had refused to take antibiotics for an infection.

Medina, who declined to comment on who runs the clinic, said Sears had signed a release form to participate in the program.

Liza Davis, U.S. Consulate spokeswoman, said the clinic wasn't registered as a business in Mexico and the consulate was unfamiliar with it. No additional information on Sears was available.

It's unclear whether the clinic was operating with a health permit, or whether it was required to have one.

Patients pay \$4,000 for the five-day program, according to the Web site, and the clinic has room for three patients at a time.

The association's Web site notes that it doesn't treat patients with certain health conditions, such as heart disease, uncontrolled diabetes and severe cases of hepatitis.

The State Attorney General's investigation found that Sears went to the clinic with skin abscesses, and he also had hepatitis C, the agency's spokesman, Ernesto Alvarez, said. Medina said that tests showed that Sears' liver enzymes were at normal levels, which meant he could be treated.

Dr. Lee Cantrell, director of the San Diego division of the California Poison Control System, said deaths attributed to ibogaine use have been reported in medical literature. But such reports are hard to document because much of the ibogaine treatment is done clandestinely.

“A pronounced drop in blood pressure with large doses, seizures and cardiovascular collapse are all things that have been reported,” Cantrell said. “But it can be difficult to tease out what role ibogaine might play in a patient death because these are people who are drug addicts, and may have had risk factors as well.

“The fact is that there are still not any well-established treatment guidelines for this drug – we haven't worked the bugs out or even determined if it has a role in patient therapy.”

On its Web site, the association says it moved its clinic from Mexico City to Playas de Tijuana in 2004.

Though ibogaine is listed alongside LSD and heroin on the U.S. Drug Enforcement Administration's Schedule 1 of banned substances, the drug has a following among self-help addiction recovery groups and some scientists.

Several clinics have sprung up in the Caribbean, Panama and other countries where ibogaine is legal or at least tolerated, including the Ibogaine Association clinic in Tijuana. Last year, a group of researchers at the University of Miami announced plans to conduct a small safety test of the drug in humans.⁶¹

Lethality and Neurotoxic Effects

The LD50 of ibogaine has been determined in guinea pig (82 mg/kg, i.p.) and rat (327 mg/kg, intragastrically and 145 mg/kg, i.p.) (60,146).

No significant pathological changes in rat liver, kidney, heart and brain following chronic ibogaine treatment (10 mg/kg, for 30 days or 40 mg/kg, for 12 days, i.p.) were reported (60). Sanchez-Ramos and Mash (42) found no evidence of gross pathology in African green monkeys given ibogaine in doses of 5-25 mg/kg, p.o. for 4 consecutive days.

⁶¹ <http://www.signonsandiego.com/news/mexico/tijuana/20060202-9999-7m2detox.html>

However, O'Hearn et al., (147,148) and O'Hearn and Molliver, (93) reported that repeated administration of ibogaine (100 mg/kg, i.p.) to rats caused the degeneration of a subset of Purkinje cells in the cerebellar vermis. This degeneration was accompanied by a loss of microtubule-associated protein 2 (MAP-2) and calbindin. Argyrophilic degeneration, astrocytosis and microgliosis were also observed. The damage seemed to be dependent on the presence of an intact inferior olivary nucleus (149). Ibogaine-induced cerebellar toxicity seem to be independent on its action at NMDA receptors, because neither MK-801 nor phencyclidine produce the same pattern of degeneration (150). The neurotoxic effects of high doses of ibogaine were confirmed in rats, but not mice, by Scallet et al., (151,152) and Molinari et al., (153), who, in addition found that the "typical" dose of 40 mg/kg did not produce significant damage to female rat cerebellum. The lack of neurotoxicity after lower, behaviorally active doses of ibogaine was also demonstrated by showing that chronic administration (60 days) of 10 mg/kg of ibogaine produced no change in the number of Purkinje cerebellar cells (154).

In spite of these findings, examination of cellular markers that are more sensitive to neurotoxic agents than gross histology indicates that ibogaine administration may produce significant change in many other brain structures. Thus, O'Callaghan et al., (155,156) examined the effects of acute and chronic administration of ibogaine on glial fibrillary acidic protein (GFAP) levels. Acutely, ibogaine increased GFAP in both sexes; whereas chronic administration (14 days) produced increases only in females. Ibogaine-induced changes in GFAP were dose-related, and, contrary to other studies, observed in other brain structures including hippocampus, olfactory bulb, brain stem and striatum. In addition, these authors reported that in females treated chronically with ibogaine, severe hippocampal damage was present as measured by increases in the cytoskeletal proteins neurofilament 68 (NF-68) and beta-tubulin. These latter markers indicate a damage-induced sprouting response (156). Ibogaine administration also produced an increase in c-fos immunostaining in several brain regions of mice and rats; the effects in rats were observed in all cortical layers while in mice the response was limited to cortical layer 2 (152). Human SK-N-SH neuroblastoma cells cultured in the presence of 3-30 μ M ibogaine (but not O-desmethylibogaine or 18-methoxycoronaridine) demonstrated concentration- and time-dependent morphological changes characterized by the loss of processes, cell rounding, detachment and ultimately cell death (157). Similar results were observed with primary cultures of rat cerebellar granulae cells. Because in this study only alkaloids that had marked affinity at sigma2 sites were neurotoxic, Vilner et al., (157) proposed that sigma2 sites may be implicated in the neurotoxicity of ibogaine. The neurotoxic effects of ibogaine have been recently reviewed by Vocci and London (106).

Acute treatment with the ibogaine-like alkaloid, 18-methoxycoronaridine (100 mg/kg) did not produce gross pathological changes in the cerebellum (97). In contrast, another indole alkaloid, harmaline, produced ibogaine-like degeneration of Purkinje cells in the cerebellar vermis (93).

It has been reported that multiple doses of a non-NMDA antagonist (GYKI 52466) resulted in a substantially greater loss of Purkinje cells and microglial activation compared to ibogaine (50-100 mg/kg) alone (158). On the other hand, the noncompetitive NMDA antagonist MK-801 (1 mg/kg) markedly attenuated the degree of Purkinje cell loss caused by ibogaine (158). This later finding strongly supports the notion that the loss of cerebellar Purkinje cells produced by ibogaine is unrelated to its NMDA antagonist

properties (159). In fact, ibogaine can also exhibit neuroprotective properties, reducing glutamate-induced neurotoxicity in primary cultures of cerebellar granule cell neurons with an EC50 of 4-5 μ M (119). These neuroprotective effects of ibogaine have recently been patented by Olney (160). Consistent with its properties as an NMDA antagonist, ibogaine inhibited NMDA - induced lethality in mice in a dose-dependent manner (161), and also protected mice from maximal electroshock seizures (ED50 $\sim$ 31 mg/kg) (162).⁶²

Ibogaine neurotoxicity

Concern has been expressed regarding ibogaine neurotoxicity.

However, an intra-peritoneal dose of 40 mg/kg for 12 days, or 10 mg/kg for 30 days caused no significant pathologic findings in rat heart, liver, kidneys, and brain. (Dhahir 1971) No neurotoxicity was observed after 5-25 mg/kg ibogaine for 4 days per os in African green monkeys. (Sanchez-Ramos 1994)

While O'Hearn and Molliver describe that ibogaine and harmaline have selective neurotoxic effects, leading to degeneration of Purkinje cells in the cerebellar vermis, (O'Hearn 1993a, 1993b) Molinari et al. subsequently report that ibogaine induced neurotoxicity is dose-dependent, not causing pathological changes at therapeutic doses in the rat. (Molinari 1996)

Glick shows that 18-methoxy-coronaridine, a novel, synthetic iboga alkaloid congener, mimics ibogaine's effects on drug self-administration without evidence of cerebellar toxicity at a high dose (100 mg/kg). (Glick 1996) Popik states that ibogaine exhibits neuroprotective properties in cultures of cerebellar granule cell neurons. (Popik 1995)

Further, to the matter of neurotoxicity, Helsley shows no significant differences in Purkinje cell numbers between ibogaine and control groups (Helsley 1997) while Xu in work jointly performed at the University of Arkansas for Medical Sciences and the Division of Neurotoxicology, National Center for Toxicological Research, an FDA laboratory showed no neurotoxicity above controls at human therapeutic doses of 25 mg/kg of ibogaine in the rat. (Xu 2000)⁶³

Toxicology

Toxicology: #

The LD50 of ibogaine seems to vary depending on the animal, and the route of administration. When administered intraperitoneally in the guinea pig, the LD50 was shown to be 82 mg/kg (Dhahir, 1971). In the rat, the LD50 was shown to be 145 mg/kg when administered intraperitoneally, but 327 mg/kg when administered intragastrically (Popick and Skolnik, 1999). Thus, ibogaine does not seem to have a great liability for lethality.

⁶² <http://www.ibogaine.org/alkaloids.html>

⁶³ <http://www.ibogaine.org/neurotoxicity.html>

There have been, however, three recorded human deaths related to the intake of ibogaine, reported by Lotsof et al. (2002). The first, in 1989, was a 40 year old woman, administered 8 mg/kg for the purpose of psychotherapy. This is the lowest dose known to precipitate an ibogaine related death. Four hours into the session, she suffered cardiac arrest, and an autopsy showed significant blockage of the main arteries to the heart. Thus, should ibogaine prove to be a viable therapy, contraindications for patients with cardiovascular problems would most likely be necessary.

The second fatality (the fatality that led to Dr. Jan Bastiaans dismissal) occurred in 1993, a 24 year old Dutch woman being treated for heroin dependency. She received 29 mg/kg in a split dose of 23 mg/kg followed by an additional dose of 6 mg/kg 3 hours later. The patient died 16 hours later of unknown causes; an autopsy did not reveal any specific pathology. However, a sheet of charred tinfoil was found in her personal affects, indicating the possibility that she had consumed heroin during the course of her ibogaine treatment. (A popular method of heroin administration among Dutch addicts is to heat the heroin on a sheet of tinfoil and inhale the vapors, sometimes known as "chasing the dragon"). It is conceivable then, that a heroin-ibogaine interaction may have been the cause of death, as ibogaine has been shown to increase the effects and toxicity of opiates (Popick and Glick, 1996).

The third recorded fatality occurred in 2000, in the U.K. The patient was a 38 year old male, and suffered from hepatitis C. He was administered a total of approximately 5 grams of a total iboga extract standardized to 15% ibogaine. This was a most peculiar case, as the fatality did not occur until after the effects of ibogaine had subsided, 38 hours after initial administration. Police toxicologist Dr. John Taylor told testified that the level of ibogaine in the dead man's blood was "well below the normal toxic dose" (Kerr, 2001). According to writer Nick Sandberg (2002), the official inquest named the primary cause of death as asphyxiation due to vomit clogging airways, with liver failure as a secondary cause.

Of more importance to the general population than these isolated incidents, are recent reports of ibogaine neurotoxicity. There are, however, some discrepancies among these reports. Dhahir (1971) found no pathological changes in the liver, kidney, heart or brain of the rat following chronic intraperitoneal ibogaine administration (10 mg/kg for 30 days, and 40 mg/kg for 12 days.) Likewise, Sanchez-Ramos and Mash (1994) found no evidence of gross pathology in African green monkeys given ibogaine in oral doses of 5-25 mg/kg for four consecutive days.

In higher doses, though, ibogaine has been shown to cause definitive neurotoxic effects. At a single intraperitoneal dose of 100 mg/kg, ibogaine was shown to cause marked degeneration of Purkinje cells and activation of microglia in discrete radial bands of the rat cerebellar cortex (O'Hearn and Molliver, 1997). In support of these findings, Xu et al. (2000) found that degeneration of Purkinje cells was visible at intraperitoneal doses beginning at 75 mg/kg, showing increasing damage at 100 mg/kg. This study revealed

that the neurotoxicity of ibogaine is dose-dependent, a finding also supported by other investigations (Molinari, Maisonneuve, and Glick, 1996).

O'Hearn and Molliver (1997) propose that ibogaine is not directly toxic to Purkinje cells, but rather causes Purkinje cell degeneration through sustained activation of the olivocerebellar projection. Scallet et al. (1996) reported that activation of serotonin receptors in the forebrain is the initial site of ibogaine neurotoxicity. Corticofugal axons could then stimulate the inferior olive and its excitotoxic climbing-fiber pathway to the cerebellum (Xu et al., 2000). This lends support to O'Hearn and Molliver's theory of trans-synaptic excitotoxicity mediated by the olivocerebellar projection.

In light of these findings, a number of researchers have recently been studying the effects of a synthetic congener of ibogaine, 18-methoxycoronaradine, more commonly known as 18-MC. Similar to ibogaine, 18-MC decreases levels of extracellular dopamine in the nucleus accumbens (Szumlinski, Maisonneuve, and Glick, 2000). Likewise, 18-MC has similar effects to ibogaine on the attenuation of morphine and cocaine self-administration (Glick et al., 1996) and alcohol intake (Rezvani et al., 1997). However, unlike ibogaine, 18-MC is non-tremorigenic, does not induce bradycardia, nor does it cause damage to Purkinje cells, or the brain in general (Glick et al., 1996; Molinari, Maisonneuve, and Glick, 1996; Glick, Maisonneuve, and Szumlinski, 2000). FDA protocol studies of human toxicity are currently underway at the University of Miami, under the direction of neurologist Deborah Mash. Should these studies deem ibogaine too hazardous for clinical use, 18-MC could represent a viable alternative.⁶⁴

Ibogaine neurotoxicity: a re-evaluation.

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Ibogaine is claimed to be an effective treatment for opiate and stimulant addiction. O'Hearn and Molliver, however, showed that ibogaine causes degeneration of cerebellar Purkinje cells in rats. The present study re-examined cerebellar responses to the high doses of ibogaine used by O'Hearn and Molliver (100 mg/kg or 3 x 100 mg/kg) and sought to determine whether a lower dose (40 mg/kg), one effective in reducing morphine and cocaine self-administration, produced similar responses. Purkinje cell degeneration was evaluated with a Fink-Heimer II stain, and enhanced glial cell activity with an antibody to glial fibrillary acidic protein. Every rat treated with the high dose of ibogaine displayed clear evidence of Purkinje cell degeneration. The degeneration consistently occurred in the intermediate and lateral cerebellum, as well as the vermis. Purkinje cells in lobules 5 and 6 were particularly susceptible. Given the response properties of cells in these lobules, this finding suggests any long-term motor deficits produced by ibogaine-induced degeneration should preferentially affect the head and upper extremity. In

⁶⁴ http://www.erowid.org/chemicals/ibogaine/ibogaine_article3.shtml

marked contrast, rats given the smaller dose of ibogaine displayed no degeneration above the level seen in saline-treated animals. When combined with information on other compounds, these data suggest that the degenerative and 'anti-addictive' properties of ibogaine reflect different actions of the drug.⁶⁵

Usage

With ibogaine treatment now more available than ever before, in an ever-widening range of settings, more and more knowledge about the drug is gathering. At the time of writing, March 2007, one thing that is becoming increasingly clear is that there is a reasonable degree of risk associated with taking the drug. At least 12 people are recorded as having died in connection with taking ibogaine or other iboga substances over the last decade or so, and there is reason to believe that the number may be higher, with other deaths having occurred in non-clinical settings and without being recorded.

Safety-related information

- There is an inherent level of risk with ibogaine treatment. Twelve people are known to have died in connection with taking ibogaine or other iboga alkaloids. In actuality, the figure is likely higher, given that ibogaine is frequently administered in surroundings where people may be reluctant to contact the authorities in the event of something going wrong. Statistically, a ballpark figure for deaths during treatment is probably of the order of 1 in 300. (This is based on 12 recorded deaths having occurred within 3611 recorded treatments, outside of Africa, as of March 2007). The following factors have been identified as having caused death:

- * having a pre-existing heart condition, sometimes one not detectable by EKG
- * using opiates when on ibogaine, or shortly afterwards
- * using the rootbark or iboga extract. Ibogaine HCl is statistically much safer
- * taking ibogaine outside of a clinical facility. Persons taking ibogaine need constant supervision and, ideally, online heart monitoring

- Ibogaine is principally recognised for its ability to vastly reduce the symptoms of drug withdrawal, thus allowing addicts to detox relatively painlessly. Any other claims made for the drug, such as that it creates long-term drug-abstinence, or removes the effects of trauma or conditioning in either addicts or non-addicts, may have a degree of truth but are a great deal less substantiated.

- You must be medically tested before you take ibogaine. Proper clinical testing of heart and liver function are the absolute minimum. The site author is not aware of any reputable treatment provider who would allow you to take ibogaine without prior medical testing. Do not go with someone who does not insist on it. Ideally, you should have

⁶⁵ <http://www.ibogaine.org/chronology.html>

constant monitoring of heart function whilst on the drug, and medically-trained staff present.

- Beware of listening excessively to the advice of just one individual when deciding whether or not to take ibogaine. Ibogaine's effects can be life-changing, and it is common for someone who has had a very positive experience to do their utmost to "spread the message," possibly allowing their enthusiasm to override the very real concerns about safety.

- If you are thinking of taking ibogaine for personal development and haven't yet been involved in proper therapy (therapy where there's an open admission by the individual of the presence of emotional issues), be aware that you may be being attracted to a "quick fix" strategy that avoids really dealing with deeper issues. If this is the case, ibogaine could possibly make things worse. For some, using psychoactive substances can invoke disturbing reactions as the mind's defences struggle to keep down rising repressed material. Drugs like ibogaine, ketamine, LSD and MDMA (Ecstasy), have been used in the past by therapists, but only as one component of an overall therapeutic strategy. Using the drug out of this context could cause more harm than good.

All the above said, ibogaine still potentially represents a major medical breakthrough, especially in the field of treating drug dependency.⁶⁶

Women

As I have mentioned previously, from my experience of treating women with ibogaine it seems that women are generally not affected as strongly by ibogaine as men. There was definitely a difference in reaction to the substance by the genders. Gender response to psychoactive substances has been something I have been interested in for years so I paid special attention to this. I began noticing a pattern. Generally ibogaine did not hit women as hard, they tripped less and generally were up and walking and talking much quicker than men. In fact in the majority of female subjects I treated they also claimed to be experiencing withdrawal symptoms and thereby complaining that the ibogaine wasn't working. These results indicate perhaps a faster metabolism and a quick conversion of ibogaine into noribogaine thereby reducing the oneiric phase. I treated six women and twelve men so unfortunately do not have even numbers of both genders to compare. However out of the six women only one had a strong experience and she was unusual anyway as she didn't emerge from the treatment room for six days and was incoherent and clearly hallucinating for 5 days. I gave her the strongest dose I had given a female - 19mg/kg. Prior to that I hadn't exceeded 17mg/kg with women. She had just stepped off a long haul flight, had slept for a few hours and then took the ibogaine so jet lag may have had something to do with the duration. Unfortunately I have lost touch with this woman and am unable to get more information on how she is now and what she has experienced since. The other women treated were definitely not as affected as men were by ibogaine. The dose differentiation between the genders was never more than about 2mg/kg which I

⁶⁶ <http://www.ibogaine.co.uk/info.htm>

wouldn't have imagined to have such a dramatic impact thereby leading me to conclude that it is something to do with the way women metabolise the substance.

I strongly think that this limited data warrants more research. I do not think this data is unusual as someone else has informed me that this is common and that in the clinic in which they have worked this is the case for about 70% of women -"that they trip less and act up more". I have been told by someone working with ibogaine that women almost always appear to respond to ibogaine doses of 600-800mg very poorly. That they are not quiet or mellow or "in" the experience but rather that they run around, often yell and shout and require a number of people to calm them down. One theory posited is that most women are somewhere between medium and fast metabolisers and so convert almost everything to nor-ibogaine. This is mediated by oestrogen and liver function; not directly by body fat levels. Another possibility is perhaps the dynamic of a female treatment provider treating females. It would be interesting to see if male treatment providers had experienced this or if they possibly had better effects with women suggesting something in the gender dynamic of therapist/client. I don't think this idea is as solid but it would certainly warrant further investigation.⁶⁷

Thoughts on Safety - Exclusion/Inclusion Requirements

I think that all treatment providers should discuss in considerable detail the possible dangers and risks involved with ingesting ibogaine. I do know of a treatment provider who does not do this as he considers it the subjects responsibility to investigate the substance. In my opinion however, the treatment provider must take responsibility for informing the subject as they are probably in a position to know more about ibogaine and the risks involved. By focusing on the risks you are also more likely to obtain the truth from the subject about their health if they know that it could be a matter of life or death.

I think that an ECG, a liver function test and blood work up are essential pre-requisites. When I started treatments I was more relaxed about this and administered ibogaine to people whom had not obtained the ECG. It wasn't until I had a couple of worrying situations that I made this essential inclusion criterion. If something were to go wrong and I hadn't obtained these reports I would personally never forgive myself. After all, people coming to do a treatment trust the provider and are paying the money because it is safer than doing it at home on their own or so they believe. As a treatment provider you have credibility and experience in the eyes of the clients. Therefore the position bears responsibility and should attempt to minimise the risks as much as possible. Eliminating the possibility of prior health complications will certainly decrease the risks.

I would also now consider a comprehensive medical history a pre-requisite. Even if a subject gets a clear ECG they may have had previous heart problems. This can be a danger and so a present medical work up is not necessarily enough. The case of the woman in Amsterdam dying recently shows this. She had apparently been given the all clear by her doctor on the condition of her heart and had even done ibogaine once before.

⁶⁷ <http://www.ibogaine.org/wells.html>

However she had had open-heart surgery years previously. This in itself could have led to her death. One can never be sure but at least if you know the medical history of somebody you can make an informed decision as to whether you want to treat them.

The problem with this is obtaining the medical history as many people will lie about their health in a state of desperation. For this reason alone I would in future want to be working with a doctor who could request the medical history of the client from their GP. Failing that he could probably obtain an adequate history himself and could do a full physical work up. Obviously this is not always practical and the majority of ibogaine providers are doing it without medical assistance and providing a great service. However, potential sitters for ibogaine sessions should be aware of the responsibility and dangers involved and try to obtain as much information about the health of the client as possible. If anything happens and you haven't obtained this information how would you feel? At least if you have obtained all the information you can be satisfied that you tried your best.

I also think it is important that the provider can perform CPR as there have been several cases where this has been needed (although not in my personal experience).

I would also monitor breathing during the session as respiratory depression has been an issue according to the literature and if someone had severe asthma along with general poor health I would probably exclude him or her. I know of people with asthma who have done ibogaine for self exploratory purposes and been perfectly fine, however in the case of asthma with a severe addiction and heavy crack/smack (smoking) use I would not want to risk it.

This brings me onto the discussion of risks. There will always be risks as a treatment provider as we are performing this service outside of medical institutions and without medical training. Each treatment provides new material from which to carry out research into the drugs action. We are mapping new territory. For example if you stick rigidly to the exclusion criteria we may never learn about the interaction of ibogaine with certain medications and certain health conditions. But it's a risk as a provider I was only able to do for a certain amount of time.

Examples of note are the treatment of an individual with insulin dependant diabetes. I didn't want to treat the individual and he requested for almost a year before I finally agreed. I didn't want to do the treatment because there was no information on ibogaine and diabetes available to me. However the treatment was a success. I monitored his blood sugar levels every half-hour to begin with for the first 2 hours and then every hour following that. His blood sugar remained high throughout the experience but not dangerously high and as he came down he was able to bring the sugar levels down to a more comfortable level. He said afterwards that perhaps he would have tried to get his levels down lower before starting again, as when he ingested they were higher than normal.

On the other hand I treated someone who I hadn't been aware had a stomach ulcer. I hadn't been thorough enough in my medical questioning of the individual. I don't know if I had known previously whether this would have stopped me carrying out the treatment. However his experience was one of the worst I encountered. He vomited blood for 5 hours between 1am and 6am. Initially negligible amounts however the content increased and I became worried that something was going wrong internally. This is obviously the first sign of haemorrhaging. I wanted to take him to hospital but he really didn't want to go and seemed to think that everything was fine. Our communication led me to believe that he probably was OK as he was showing no signs of distress and all his vital signs were normal - temp. blood pressure, pulse and breathing. I began to ask him at this stage if he had a stomach ulcer or anything similar and he said that he had. It was then that I realised that I hadn't been thorough with my questioning. This man had Hep C and had been dry retching for hours so it was most likely a small tear in the oesophageal lining.

Here we have two examples where risks were clearly taken, the case of the man with diabetes knowingly and the case of the man with the stomach ulcer unknowingly. One result was desirable and one not. On the whole I would say I would not knowingly take risks and hence the added requirement of the full medical history of the client. However sometimes in certain circumstances one will take risks and I think as long as the client knows himself that it is a risk and he is willing then it is a decision the treatment provider makes and has to live with. As a provider the majority of our knowledge comes from experience and sometimes we may be willing to cross into the unknown.⁶⁸

Bad Trips

Taking a psychoactive substance such as ibogaine can lead into relatively unexplored areas of the mind. Generally this is not a problem with ibogaine as you maintain your rational state of mind throughout and your ego. This prevents fear of losing oneself or losing one's mind, a familiar fear on other psychoactives. However it is worth noting that on one occasion I was with someone who had a deep dislike of tripping. This can often be the case with addicts particularly with heavy crack/cocaine users. As the experience started to unfold for him he became visibly distressed. He kept asking me when it was going to end, that he couldn't stand all the things flying around the room and that the noises in his head were just too much to bear. This then progressed into feeling that he was dying. This is the only time someone experienced this kind of fear but it is a possibility that treatment providers should be aware of. If this should arise obviously it is of paramount importance that the sitter remain calm and reassure the subject that they are OK, that physically they are not dying. Perhaps ask them exactly why they think they are and then rationalise that these physical symptoms can be the effects of ibogaine. The body will feel strange but the experience will subside and get easier and gentler with time. Hold their hand, give them physical touch and stay close to them. One would also make sure that they are not in any physical danger by checking all the vital signs. The

⁶⁸ <http://www.ibogaine.org/wells.html>

most important thing to stress is that the experience will pass and encourage them to relax into it rather than fight it. It is the fighting that intensifies such emotions.⁶⁹

Administration

There are 3 ways in which ibogaine is currently administered for a full session:

1. Orally in capsule form.
 2. Orally as a powder.
 3. Anally.
1. Orally in capsule form

The preference appears to be to take ibogaine in capsule form with a minimum amount of water. The reason for this being to minimise the need to use the toilet due to immobilisation as well as to eliminate the initial disgusting taste of taking ibogaine.

In this state after some time it is easy to imagine a client, who has not taken ibogaine before, feeling sickened by its presence once it begins to dissolve while also feeling sickened by the release of psychologically disturbing material; both leading to a compulsion to throw up. Unfortunately as the ibogaine will not have been completely dissolved, it will also be thrown up as it is lying in the stomach in lump form due to the lumping together of the ibogaine in the capsules.

Another problem that arises is where after some time the sudden dissolving of an as yet not properly dissolved capsule can release a quantity of ibogaine causing a sudden sickening reaction thereby precipitating the client to throw up the remaining undissolved ibogaine.

Drinking a significant amount of water at the time of ingestion may be beneficial. Care should be taken with rehydration (especially if one is prone to dehydration) as ibogaine is very dehydrating. The dilemma faced in a full dose session is the difficulty of using the toilet due to immobilisation. Yet dehydration can be a serious problem.

It is quite common to take an anti-nausea medication before taking ibogaine.

2. Orally as a powder

While this is the most "disgusting" way to take ibogaine (some say it tastes like battery acid) it is perhaps the best. The reason being that on drinking an ibogaine/water mix the effect is to line the passages down into the stomach thereby distributing the ibogaine quickly over a larger surface for a quicker uptake. If the client can refrain from throwing up early on there is a high probability that none of the ibogaine will be lost. The session also takes off fully charged which may or may not be considered an advantage depending on your point of view. Again an anti nausea medication taken beforehand can help.

⁶⁹ <http://www.ibogaine.org/wells.html>

Ways in which this can be made a little more tolerable are:

1. Mix the ibogaine with warm sweetened water (honey).
2. Chew on sweet gum immediately to help overcome the taste in the mouth or eat some honey.
3. Keep sweetened water by the bed to help relieve the intensity of the taste in the mouth if necessary.
3. Ibogaine taken anally

This for a major session would be a suitable method of administration for the following reasons:

1. No risk of throwing up ibogaine.
2. Practically no taste of ibogaine in the system.

Drawbacks include the possible need to discharge body waste and perhaps also the need for a different dose. Also this can come with some physical discomfort in the anal area such as a stinging or a pounding effect. However compared to the ghastly experience of taking ibogaine orally as a powder, this can seem quite mild in comparison.

A client would need to taken an enema or whatever some time before the session to ensure the passageways are clear as one of the effects of ibogaine can be to cause a strong bowel movement brought on by waves of energy pushing down through this area.

Best Use of Syringe in Anal Administration

A major problem with using a syringe is that ibogaine gets clogged in the pipe outlet. This is due to the diameter of the hole (pipe outlet) being smaller than the diameter of the tube.

This problem can be overcome by obtaining a steel nail closer to the diameter of the tube, warming it over the flame of a stove and then inserting it into the hole, melting the plastic and thus expanding the size of the hole.

Mini-Sessions

Capsules are the best way (in my experience) for a mini-session as it makes ingestion easy and the amount involved is relatively small. It also eliminates the problems with anal administration.

However one should drink lots of water to avoid dehydration. Urination will be necessary. A rule of thumb may be to drink a glass of water between each urination.

The issue of immobilisation caused by ibogaine becomes much less of an issue with repeated use. After a number of full sessions the body becomes accustomed to its presence and the loss of equilibrium at low doses is considerably lessened.⁷⁰

Ingesting Iboga/Ibogaine

I provided ibogaine hydrochloride because I personally felt that dosages could be that much more accurate with the hydrochloride. I had seen the results of lab tests of the iboga extract and wasn't satisfied that there was a uniform substance. Both lab results I saw showed different levels of ibogaine contained in the extract. I wanted to know exactly what I was giving people so chose the hydrochloride. From witnessing people take both it also seems the HCL is somewhat gentler physically.

Dosages ranged from 15-20mg/kg of body weight for people wishing to detox and interrupt an addiction. 10-12mg/kg was given to people using ibogaine for self-exploratory or spiritual reasons. In the latter case this dose always achieved the desired results. The only time it didn't seem to really provide the desired experience was in the case of a female who was given 12mg/kg for self-exploratory purposes. She had an intense experience for about 3 hours and then literally got up within 7 hours and claimed to have felt nothing after the 3 hours. She slept that night normally having ingested at about noon. I gave her a booster raising the total dose to 15mg/kg after approximately 3 hours and she didn't feel the booster at all. However what she had experienced in the first 3 hours I believe led her to shut down the experience. She relived the trauma of being raped by her father as a baby. After that perhaps she didn't want to see anything else. It is after experiences like this that people really have to be supported emotionally and for there to be someone to talk things through with.

In the dose range for addiction interruption I found that 17mg/kg - 19mg/kg worked most effectively. The higher the dose generally the most effective. However as many subjects had a poor liver I didn't want to exceed that range and even stuck to the 17mg/kg as there was no medical support at hand.

Subjects were given ginger tea with honey 30 minutes before ingesting the capsules of HCL to help with the nausea. They hadn't consumed any drugs for 12 hours prior to the ibogaine and had been advised not to eat anything other than fruit on the day of the experience. However many people said they couldn't hold off and had eaten eggs/full breakfast etc in the morning. They were generally sicker although I am not entirely sure how much food affects the experience. So long as they had had nothing for four hours I would proceed. I suggested that upon taking the ibogaine people said out loud or to themselves their intent for the experience and to focus on this (5-15 minute meditation)

Whilst waiting for the effects to come on (anywhere from 20 minutes to 3 hours) we would talk and then as soon as the effects started to be felt silence would proceed unless they wanted to engage. The room was quiet and lit by candlelight only. I remained in the

⁷⁰ <http://www.myeboga.com/administration.html>

room for the duration of the experience leaving only to eat (quickly) and go to the bathroom. If I needed a significant break I would ask someone I lived with to sit in the room for a while. I stayed in the room for the first 16 hours vigilantly. After that depending on the progress I would leave for longer periods at a time. I would however recommend that someone is present at all times for the first 36 hours and would work in shifts if I started treatments again. The subject in my opinion should be monitored and cared for constantly. I worked alone to keep the costs down for people but wouldn't do this again. I had the support of the community where I was living and there were people at hand to help and support but this was not sufficient to actually be working in regular shifts. The work as a result exhausted me after some months.⁷¹

Dosage

When ingested in traditional religious ceremonies, ibogaine doses are highly variable. In TiHKAL, Shulgin and Shulgin describe typical doses of pure ibogaine HCl as "at or above 1000 milligrams", but also describe profound effects at 200 mg, orally. In the Manual for Ibogaine Therapy, Lotsof and Wachtel recommend 15-20 mg/kg for opiate addiction treatment. An ibogaine clinic reports administering a dose of 16-22 mg/kg. Note: Pure ibogaine dosages are much smaller than those of iboga powder, which is around 1% psychoactive alkaloids by mass.⁷²

Important information for those thinking of taking ibogaine

After years of review of reports of hundreds of ibogaine patient treatments, the effective dose for the treatment of chemical dependence, including opioid dependence, has been seen to be between 15 mg/kg and 20 mg/kg of ibogaine. It has been reported by some researchers that lower doses are effective but, this has been disputed. Effects of ibogaine generally will make themselves evident within 45 minutes to as long as, three hours after administration. In most cases opioid withdrawal signs will be reduced within 45 minutes of ibogaine administration. Ibogaine is usually administered in place of what would be the next scheduled dose of narcotics. This would provide for an ibogaine administration schedule 8 hours after the last dose of heroin, morphine or demerol and 24 hours after the last dose of methadone. It is expected that the patient would be exhibiting minor withdrawal signs at the time of ibogaine administration. There is no experience with ibogaine in the treatment of LAAM dependence.

Another issue pursuant to dose is that of dose increases, should anticipated effects including the diminishment of opioid withdrawal not be seen. Modification upwards of ibogaine doses have been used occasionally within medical environments and commonly by some lay providers as well as, within the African religious context. The issues remain of ability to respond to medical emergencies and of the experience of the provider to determine the safety at any time of the patient. It may be prudent to allow the primary dose of ibogaine to run its course and then provide a second dose a week later if required. That is, if the patient is still chemically dependent or exhibiting drug craving?

⁷¹ <http://www.ibogaine.org/wells.html>

⁷² http://www.erowid.org/chemicals/ibogaine/ibogaine_basics.shtml

Once ibogaine has been administered, effects follow. The patient will usually want to lay prone and should be encouraged to remain still as nausea and vomiting as well as, being systemic have been seen to be motion related. The skin tends to become numb. Patients will report an initial buzzing or oscillating sound. A period of dream-like visualization lasting for 3 to 4 hours in most but, not all patients is considered to be the first prominent stage of ibogaine effects. This stage ends abruptly should it occur at all. Another aspect of ibogaine effect that is common are random flashes of light that appear everywhere with eyes open. This may last for hours or days. Visualization on the other hand is most common with eyes closed.

The second stage that follows visualization has been described as one in which the subject principally experiences cognitive evaluation or a review of issues that are important to the subject. These may cover every possible scenario from early childhood experiences to current health issues. This period may last for as few as 8 hours or for 20 hours or longer.

The third or final stage of ibogaine effects is that of residual stimulation. This stage, because it tends to leave the subject/patient exhausted is somewhat uncomfortable. Subjects may remain awake for two or more days. Most patients will sleep within 48 hours of ibogaine administration. Some within 24 hours of administration. Usually, there is a long term long term diminishment of the need for sleep over weeks or months. Some patients may require or request sedation. Sedatives that have been used include benzodiazepines, barbiturates and melatonin.

The effects herein described are those of single administration high dose ibogaine regimens. Ibogaine has also been given in regimens of small daily doses of 25 mg to 300 mgs/day and in small daily doses where the dose is increased on a daily basis until the desired interruption of drug dependence is accomplished. These low dose modalities have not been validated for efficacy to the same extent as have the full therapeutic doses of ibogaine. However, these low dose regimens can be traced back some decades to the work of Leo Zeff who in the case of a single patient provided ibogaine on an "as needed" basis via nasal administration to a cocaine dependent patient to substitute for his cocaine use. Lines of ibogaine were somewhat equivalent to lines of cocaine and the patient ceased cocaine use after a week of this daily self-regulated ibogaine regimen. Additionally, reports from Canadian sources indicate multi-week low dose ibogaine therapy 20 mg/day following a therapeutic dose of ibogaine in the treatment of cocaine dependence. Further, reports throughout the ibogaine provider community indicate the use of multiple dosing of varying strength doses over varying time periods in the treatment of opioid dependence. As with all determinations in medicine, decisions must be made on observations of the patient and knowledge of the disorder(s) and the medication(s) used.⁷³

⁷³ <http://www.ibogaine.org/manual.html#discuss>

Assuming the client is sufficiently well to be treated, their bodyweight in kilos should be measured, and a suitable dose of ibogaine calculated.

Pure ibogaine HCl is typically administered at doses of around 10 milligrams per kilo bodyweight (mg/k) for men, and 9 mg/k for women. To calculate the dose, multiply the client's bodyweight in kilos by either 10 (for men) or 9 (for women) and you will have the dose in milligrams.

Example: An 8 stone female alcoholic will require about 460mgs of ibogaine HCl, a little under half a gram. (8 stone x 14 = 112 lbs. $112 / 2.2 = 50.9$ kgs. $50.9 \times 9 = 458$ mgs)

Note that this is for pure ibogaine HCl, one of two forms of the drug commonly available in Europe. The other is the "Indra iboga extract," which is believed to be approximately one quarter the strength of pure HCl, meaning clients will require roughly four times the amount. Although the "Indra" product is becoming increasingly available in Europe, it is known to induce more vomiting than the HCl. In January 2000, a 40 year old heroin addict died in London after vomit clogged his airways some 40 hours after taking a dose of this extract.

For opiate addicts, such as those using heroin or methadone, the dose of ibogaine HCl is typically doubled, to around 20mg/k for men, and 18mg/k for women. This is because the opiates in a person's system partially block ibogaine's effect.

It is recommended that ibogaine only be given as a single dose, in the range of 9-10 mg/k. From what is known, this appears to be the safest way to take the drug, bearing in mind that higher doses can always be taken in subsequent sessions if necessary. When re-dosing, it is recommended to wait at least one month as ibogaine and its metabolites linger in the body.⁷⁴

Treatment Regimen and Dose

Anticipating that the subject and provider have reached this point in discussion and or treatment, the subject will have met all inclusion criteria and no exclusion criteria. This brings us to actual treatment requirements and dose.

1. The patient should be well rested.
2. All drugs that are not medically required and/or contraindicated should be stopped early enough to be cleared by the subject undergoing ibogaine administration.
3. In the treatment of opioid dependence, short acting opioid drugs should be stopped no less than eight hours before ibogaine administration. Methadone should be stopped no less than 24 hours prior to ibogaine administration.

⁷⁴ <http://www.ibogaine.co.uk/ibogaine6.htm#six>

4. The issue of sedation of the subject particularly in the treatment of opioid dependence is not uncommon. The question of whether sedation, post 30 hours should it be requested or required by the patient, would be beneficial or not to ibogaine therapy has not been answered. Some if not all providers feel that ibogaine effects would be best concluded without sedation. However, patient comfort is an issue and sedation may become a requirement in the treatment of any particular patient.

Ibogaine has been administered safely with various forms of sedation including benzodiazepines, barbiturates, melatonin, valerian and chamomile.

On an adjunct issue, one author comments, "benzodiazepines are useful before, during and/or after the ibogaine dose if there is anxiety. If there is considerable anxiety some days after detoxification buspirone is better because of its low liability for addiction."

5. A number of authors comment on the issue of hydration or in the inverse dehydration. "Post ibogaine the drinking of water is very important. Initiates are requested to drink at least 3 liters of water a day. This is not only for the purpose of avoiding dehydration but, as it is the feeling of this author that ibogaine loosens toxins in the body and, they are excreted during the initiation and afterwards. The only vehicle to accomplish this is pure water."

On an issue of safety, states an author, "I would also include avoiding dehydration. Many subjects don't feel like drinking for some time after ibogaine and if not reminded they would not drink a drop of water for more than 24 hours. This can lead to dehydration even without vomiting. With vomiting I would view the loss of liquids as threatening."

Continuing, another author states, "I have received patient reports that IV hydration is commonly used at the St. Kitts facility. This is not out of keeping with standardized procedures of hydrating patients undergoing surgery or chemotherapy."

6. Emesis or vomiting is a patient condition known to all ibogaine providers. Whether a provider believes there is benefit to vomiting as part of ibogaine therapy or ritual is moot if enough of the drug cannot be absorbed to allow the therapeutic experience. To that end various providers have indicated the use of substances as diverse as ginger tea, gravol/dramamine (dimenhydrinate), motillium (domperidone) and reglan (metaclopramide). This author participated in research involving all except ginger tea and upon reflection am uncertain if dimenhydrinate or domperidone had any effect above that of keeping the patient motionless. Metaclopramide 20 mg IV was the only medication that immediately stopped vomiting in ibogaine patients. No determination was made of whether oral metaclopramide administered prior to ibogaine would have as significant an effect as the IV administration of the drug. I anticipate this should be determined.

7. "As to dose," one author comments, "given the modest dose range given in the manual (and I agree a publicly presented manual should lend itself to caution), the 15 - 20 mg/kg of body weight will tend to leave 5 - 10% of the opiate withdrawal symptoms. I suggest a test dose of 2 mg/kg of weight be given with an antinauseant an hour before a dose of 13

- 16 mg/kg. The effect of the 2 mg/kg "test dose" will usually produce slight euphoria which lends to a person being more amiable to receive the next and largest dose. Whereas, years ago, during the first series of sessions, after giving the full amount of 18 - 22 mg/kg that followed the 1 mg/kg "test dose", we found that giving a smaller amount of 13 to 16 mg/kg allows for more comfort for a person who is obviously less traumatized by the intensity of the first stage and more open to receiving a booster of 6 - 8 mg/kg 5 to 8 hours later. On occasion, only when necessary, we administer an additional booster of 3 - 4 mg/kg with 24 hours of the beginning of the session, usually during the early morning hours before sunrise. I have written only a synopsis here as there are reasons, exclusions, etc., every step of the way according to the psycho-physical reactions of the individual as the session progresses."

8. The use of a multi-dose regimen of ibogaine, over time, particularly for methadone, is in keeping with literature in the field (Kosten and Kleber, Am J Drug Alcohol Abuse 1984;10(2):249-66) indicating physical withdrawal signs to methadone may be precipitated as long as 14 days after the administration of methadone by a narcotic antagonist drug such as naltrexone.

Included herewith, is a report of a dose regimen used to treat a patient who had been receiving 300 mg of methadone per day, the highest dose of methadone dependence yet treated with ibogaine says one provider.

We have recently used the following regimen to clear a methadone dependent person who was taking 300 mg of methadone per day.

At 52 hours after the patient's last 300 mg. methadone dose, we gave him 5,200 mg Indra extract.

Over the next 72 hours, the patient has no physical withdrawal as per usual (in other words, no diarrhea, vomiting, sweating, running nose, pounding headache) but felt miserable.

72 hours after the first dose of Indra extract, we gave him 100 mg Ibogaine Hydrochloride.

96 hours after the first dose of Indra extract, we gave him 100 mg. Ibogaine hydrochloride.

120 hours after the first dose of Indra extract, we gave him 3,800 mg. Indra extract.

168 hours after the first dose of Indra extract, we gave him 100 mg. Ibo HCl.

192 hours after the first dose of Indra extract, we gave him 100 mg. Ibo HCl.

By his 11th day here (12 days from his last 300 mg. methadone dose), he was bright, sharp, lucid, no slurring, no signs of any methadone, no withdrawal or craving or discomfort of any kind. Patient said "I like the way I'm thinking now."

Patient ate little in the 12 days. Lost 25 pounds. Looks robust, healthy skin. "On methadone, I gained 110 pounds" he commented". The ibogaine is returning him to his regular body weight I feel.

"Something should be said about dose and product," states another author. "First, some new guides, new to the use of ibogaine, may be confused in dose distinctions between HCl and extract. It would be a very unpleasant death, I suppose, with 4 or more grams of ibogaine HCl on board. Second, in my opinion 29 mg/kg of HCl is too much. I experimented with dosages in the range of 13 to 22 mg/kg and came to the following conclusion - 15 mg/kg is for the first time the optimal dose. It is effective for withdrawal and craving and for the vast majority of patients is neither too weak or too strong. Then, from the second treatment on (which I prefer to administer not earlier than 3 or 4 weeks afterwards) the subject can easily cope with 20 mg/kg and does not feel it as stronger than the first treatment."

Product Identity

The proposal of discussion of ibogaine product identity particularly for the benefit of new providers and patients is certainly legitimate as three principal forms of ibogaine of diverse purities are in use in ibogaine therapy. These substances may be, a highly purified form of ibogaine, an extract of *T. iboga*, that may be as low as 90% or as high as 99% in purity. Most examples of these products are 95% pure ibogaine. These products are available from commercial chemical manufacturers or by custom manufacturing by qualified chemists in university laboratories. Purified ibogaine may also be obtained by direct conversion from voacangine. This product when available had been assessed at 99.4% purity. The second principal form of ibogaine currently available is a crude total alkaloid extract and contains a reported 15% to 20% total alkaloids of which half is ibogaine. As the other iboga alkaloids contained in the total alkaloid products are active, this material should be viewed as having a potency of 15% to 20% ibogaine equivalency depending on source and batch. These total alkaloid extracts have been supplied by sources in Denmark and Canada. The third form of ibogaine material is the crude plant root bark. Depending on potency, this product may contain from 1% to 6% ibogaine. Most root bark will be in the 2% - 4% range. Any person taking ibogaine or providing ibogaine to another person should be certain of the identity of the substance as confusion of purified ibogaine and a less potent total alkaloid extract might cause a fatal reaction or not be sufficient as a dose to interrupt chemical dependence.

While the initial discovery and early research with ibogaine principally used single doses in the 15 mg/kg - 25 mg/kg range of ibogaine, the expanding base of data being presented by ibogaine providers throughout the world propose multiple dosing regimens. These dose regimens make use of purified ibogaine HCl, total extracts and root bark though principally, ibogaine HCl and total extracts except in the African religious model. Doses

considered by a variety of providers to be full therapeutic doses may vary from 15 mg/kg - 25 mg/kg for ibogaine HCl and from 3 gram to 5 grams for total alkaloid extracts for the treatment of chemical dependence. For the purpose of this discussion a full therapeutic dose of ibogaine is one that will precipitate all three stages of ibogaine activity in most but, not all patients: 1) The waking dreamlike state, 2) the cognitive evaluation period and 3) residual stimulation eventually leading to sleep. Depending on circumstance and patient need, full therapeutic doses may be administered in a multidose paradigm a week to months apart.

Adjunct dose levels of ibogaine may be mediate or low. A mediate dose would be 300 mgs to 400 mgs of ibogaine HCl or possibly 1.5 to 2 grams of total extract while low doses may be in the range of 25mg to 50mg total dose range for ibogaine HCl and 100 mgs to 300 mgs of total alkaloid extracts. Mediate doses are generally used to boost a therapeutic dose should opiate withdrawal signs become evident or in the cases of some providers for a broader set of issues. Low dose regimens have been implemented for periods of ten to twenty days after recovery from a full therapeutic dose for antidepressant, antianxiety or antiwithdrawal applications. These regimens have been used in the treatment of both opiate and stimulant disorders in furtherance of the full therapeutic dose of ibogaine. It must be recognized that providing ibogaine is an art and a science and that ibogaine providers will use a multitude of doses individually determined on a patient by patient basis in accordance with the experience of the provider.

For additional information, comparative dose and strength tables from the chapter by James and Renate Fernandez found in Vol. 56 of The Alkaloids series published by Academic Press (2001) are shown below.

Alper et al.	
Ibogaine dose to facilitate personal growth and change:	10 mg/kg
Ibogaine single dose in self-help network for addiction interruption:	20 mg/kg
<i>Animal studies for neurotoxicity:</i>	
Alternate daily dose ibogaine over 60 days [no toxicity]:	10 mg/kg
Ibogaine dose associated with no evidence of toxicity [but decrease in drug self administration:	40 mg/kg
Ibogaine dose associated with cerebellar damage:	100 mg/kg
Lotsof (personal communication in preparation for ibogaine conference)	
Ibogaine dose causing modest psychoactivity with euphoria, altered perception of time:	90-120 mg
Amount of ibogaine ingested by adept that would allow	200 to 300 mg

remaining centered enough to assist in initiation ritual:	
Ratio of fresh root scraping to dry root bark:	15/1
Proportion of <i>iboga</i> alkaloids in dry root bark (50% ibogaine):	2 to 3%
Rounded teaspoon of root bark:	3 to 4 g
Amount <i>iboga</i> alkaloids in rounded teaspoon per above calculations:	60 to 120 mg
Fernandez	
Pick-up dose , <i>iboga</i> alkaloid content of 1 rounded teaspoon of dry root bark:	60 to 120 mg
Large dose for initiation into Bwiti, gradual intake of fresh root scrapings, maximal dose observed:	1000 g [one kilo]
Dose recalculated as dry scraping [1000/15]:	67 g
Content of <i>iboga</i> alkaloids of the above quantity of root scraping, assuming an average 2.5% <i>iboga</i> alkaloid content:	1.675 g
Total maximal Bwiti <i>iboga</i> alkaloid dose calculated per kilo of body weighty in small initiate weighing 50 kilos [hence a high estimate]:	33.5 mg/kg

Intake and Safety Issues

Needless to say, it is evident that most persons outside of a research institution would not be able to undertake the testing presented in the NIDA ibogaine protocol. The primary issue the authors are attempting to address is that no medical testing is the norm for many persons receiving ibogaine therapy. This leaves both providers and patients at risk. Risk cannot be eliminated but, as inferred by Dr. Curtis Wright in the introduction to this article, risks must be weighed against benefits. It is apparent from the actions of both ibogaine providers and chemically dependent persons who seek treatment that the benefits are significant. However, with no less than three documented ibogaine-related fatalities, so are the risks. Having safety procedures in effect are not for the benefit of the majority of the patients who will go through ibogaine therapy with no problems but, to assure the survival of a small minority of the patients who may experience some form of adverse medical event that may be life threatening.

One of the recorded fatalities was reported to have taken place in 1989 in France. The patient, a forty year old woman was provided a dose of 8 mg/kg of purified ibogaine for purposes of psychotherapy from which she died approximately four hours after

administration of ibogaine. The dose given was the lowest dose associated with an ibogaine related fatality that has been recorded and the autopsy found significant blockage of the main arteries to the heart. It was indicated that the patient had a history of cardiovascular disorders that may not have been investigated. This immediately indicates two areas that should be given priority attention by ibogaine providers: 1) A medical history and 2) an electrocardiogram (EKG).

The most common form of a medical history is usually a questionnaire required of every patient visiting a doctor for the first time and your doctor's office is an excellent source of such a document. Among the information required on such forms are issues relating to heart disease and these questions if honestly answered will provide an alert to the existence of a cardiac disorder. As, previously stipulated because medical conditions may not be known to the patient an electrocardiogram (EKG) should be included in any basic intake for ibogaine therapy. Information on electrocardiograms can be found in [documents #6 and #7](#). Any history of heart attacks should be a reason not to treat a patient with ibogaine.

Whether in a hospital or outside of a medical environment the patient's safety can be best provided for by continuously observing the patient. A nursing assistant or other trained person should observe the patient continuously for 48 hours or longer if the patient response to ibogaine requires it. During this period pulse and blood pressure should be monitored at regular intervals and at any time that patients indicate discomfort or the observer has concern. The regular intervals may be as short as 30 minutes for the first four hours or until blood pressure and pulse are stable and then at time points of 1 hour to 4 hours thereafter.

Observers should have training in cardiopulmonary resuscitation and be prepared to call a hospital or emergency medical services should the patient's pulse drop below 50 beats per minute. If you are not prepared to call for emergency medical help you should not be providing ibogaine therapy. A hospital should be called at any time if a patient loses consciousness. The emergency number to be called should be available to all provider personnel at all times. Observing the patient is more work than one person can realistically accomplish. In a hospital setting nursing staff would normally rotate on 8 to 12 hour shifts.

The evaluation of blood chemistry is a standard means of assessing the health of a patient and is often used in medical evaluations of patients during annual physicals or to determine the health of a patient at any time for any purpose. The SMA-20 (a series of tests to evaluate blood chemistry) along with a CBC (complete blood count) with differential now appear to be the tools of choice to provide a wide range of information relating to blood chemistry that includes a liver profile but, does not include a hepatitis or HIV screen. Excellent resources concerning the SMA-20, CBC and definitions to allow an understanding of the associated terminology can be found in [#3, #4, and #5](#) of the document section.

The second recorded fatality was that of a woman in her mid twenties in the Netherlands who received 29 mg/kg in a split dose of 23 mg/kg and an additional 6 mg/kg approximately 3 hours later. The patient died 16 hours after the administration of ibogaine. The autopsy did not determine the cause of death. The unanswered question of the cause of death brings us to another important safety issue. Ibogaine has been shown to increase the effects of opiates as well as opiate toxicity. Ibogaine may also increase the potency and toxicity of stimulants. Therefore patients should be warned that concurrent drug use during ibogaine therapy may be fatal. It does not mean that concurrent drug use will always be fatal as an early report of an ibogaine experience, [Reflections on an Ibogaine Experience](#) found in document #8 of this manual indicates concurrent heroin use that did not result in a fatality. It must be recognized that the response to drugs is individual and that each patient may present a dramatic or not so dramatic distinction in how they respond to ibogaine or other drugs. Ibogaine providers should attempt to minimize danger to the patient by eliminating the use of unauthorized drugs by the patient while under the influence of ibogaine. Good luck on that matter in circumstance where you are treating experienced and dependent drug users. This is why it is very important to let the patient know that drug interaction may be fatal.

The third fatality of record occurred in 2000, in the UK. The patient was a 38 year old male who was administered a total of 5 or 6 grams of a 15% total iboga alkaloid extract over a period of six hours. The patient appeared fully recovered, had eaten breakfast, gone to the toilet and suddenly died approximately 38 hours after the administration of the plant extract. The patient had hepatitis C but, exact data on the state of the disease is not available. The subject had been using heroin for 15 years. The most troubling issue relating to this fatality is that it occurred after the apparent recovery of the subject and quite suddenly. The extract has been widely used and there appears to be no greater fatality-related issues associated to it than to purified ibogaine.

NIDA in its draft protocol and the FDA in the protocol it approved in 1993, excluded patients with hepatitis C. One of the authors believes this was not so much a safety issue but, one that would allow a determination of the transformation of ibogaine into its metabolites by the liver and the associated plasma levels to be validated in pharmacokinetic studies within ranges that would be normal and not to have them skewed by a diseased liver. It is reported that the St. Kitts facility excludes HCV and HIV patients. NDA International, Inc. in its work in The Netherlands and Panama accepted HCV and HIV that were not symptomatic for the diseases. As many chemically dependent drug users test positive for HCV and as there has been no known correlation of fatalities with HCV, it does not seem that this is a reasonable exclusion criteria in the real world of chemical dependence. Non-symptomatic HIV patients have also been treated without apparent medical events. NIDA chose to exclude patients with liver enzyme values exceeding 400% above normal from a later study design. A decision to follow NIDA's footsteps on this matter may be reasonable until more information is available.

Ibogaine appears to be a very safe drug in terms of psychiatric events. One of the authors is aware of a single event from a report where a patient apparently regressed, acted in a childlike manner and urinated in bed for a period of two days, thereafter recovering. An

early patient who had been hospitalized on a number of occasions for glue-sniffing related psychosis became paranoid during his first treatment and exhibited behavior distinct from any other ibogaine patient during a second treatment episode. Ibogaine providers should be aware that chemically dependent or not, many persons are going to come to them with underlying and in some cases significant underlying psychiatric disorders. NIDA's exclusion criteria for "patients with a history of active neurological or psychiatric disorders, such as cerebellar dysfunction, psychosis, bipolar illness, major depression, organic brain disease or dementia, that require treatment", may be well thought out and these patients should be avoided by persons not having professional skills in psychiatry and psychopharmacology. These matters are further reviewed in the Discussion section of this manual.

Anything that can be learned about the patient prior to treatment is valuable. And, anything learned before treatment will most likely allow a greater interpretation of events after treatment. To this end the [Beck Depression Inventory, document #9](#), linked in the Additional Documents Section may be valuable as may the Minnesota Multiphasic Personality Inventory-2 ([MMPI-2](#)) [document #10](#). The tests are generally only available to persons who are professionally involved in psychology or testing who then provide them to patients. Once provided with a diagnoses it is necessary to understand those disorders. To that extent the Diagnostic and Statistical Manual of Mental Disorders, 4th. Edition, better known as the [DSM-IV, document #11](#) is published by the American Psychiatric Association is a standard in the field.

Taking this broad ranging discussion to a brief conclusion, every ibogaine patient should receive an SMA-20 and CBC blood test and an EKG. These discussions are made in the hope of initiating greater associations between non-medical ibogaine providers and medical professionals who can assist them in increasing the safety of ibogaine treated patients. Questions coming out of the London Ibogaine Conference held in December of 2001, concerned the required testing, how to obtain it and how to understand it. The International Coalition for Addict Self-Help (ICASH) in their work in the late 1980s and early 1990s faced the same problems. Their solution was to have the patient walk into an emergency room or community health service with a friend and to have the friend inform the staff that the person with them had a pain in the chest and passed out and when unconscious appeared to go into convulsions. This usually resulted in the patient obtaining a blood chemistry, an EKG and EEG to investigate the possibility of epilepsy and cardiovascular disorders. ICASH would then obtain a written authorization to obtain the medical records from the patient and request the tests results and reports of the results from the hospital where the patient was evaluated indicating that the patient was to be included in a research program. The tests and reports were then usually reviewed by a doctor who had some interest in ibogaine therapy. In any case, with the basic medical testing accomplished there is at least a place to begin in offering safe ibogaine therapy. Patients who could afford to pay for testing and did not want to indicate their chemical dependence would inform a doctor that they were going on a trek in some physically taxing geographical location and that medical testing was required to participate.⁷⁵

⁷⁵ <http://www.ibogaine.desk.nl/manual.html>

The Second Revision of the Manual for Ibogaine Therapy continues to focus on safety issues while expanding the discussion of dose regimen and forms of ibogaine that include purified forms of the chemical as well as, total alkaloid extracts of varying strengths. These matter are important as ibogaine treatments are taking place in a growing number of countries and under diverse circumstances. Some ibogaine providers in research facilities provide testing as complex as that indicated in the National Institute on Drug Abuse (NIDA) ibogaine protocol. Others in non-medical environments, apartments, hotels or chapels may not include any medical testing at all. This Discussion Section contains viewpoints of all of the authors.

One author in addressing the safety issues of ibogaine states, "The drug is dangerous and shouldn't be compared to other tryptamines. People definitely have died and there may be more fatalities unrecorded. You need to check liver and heart and be able to assess the results. You need to know resuscitation procedures and be prepared to call emergency medical assistance if necessary." These statements bring us to central issues: key tests and the ability to understand them. While the authors recognize that virtually every drug product may have associated fatal reactions, the issue with ibogaine is, as it is with all drugs, that the responsibility is not only that of the patient/subject but, that of the provider. That alone should be reason for providers to screen for indicated health disorders.

Safety evaluations may be viewed in terms of an optimal screening/testing protocol and a non-optimal screening/testing protocol. The optimal being as complete and far reaching as possible including medical history, laboratory tests, evaluations by physicians as to general, neurological and psychological health including a broad range of questionnaires to allow such determinations. An excellent questionnaire to begin a structured case history on patients can be found in the the Guidelines for Psychiatric Evaluations of Adults, [document #17](#). Instruments to assist in assessments can be found in The Catalogue of Diagnostic Questionnaires, [document #18](#) and the Brief Psychiatric Rating Scale, [document #19](#). Non-optimal testing would include the bare necessities to investigate areas of medical concern that have been raised in ibogaine literature. These include cardiovascular, metabolic and absorption concerns. Additionally, reports from ibogaine treatment observations also indicate respiratory depression may be an issue as one patient was reported to have stopped breathing before then being revived.

It should be noted that female subjects might be more sensitive to ibogaine due to higher blood levels of ibogaine and/or its principal metabolite (noribogaine) than are seen in male subjects. One, of an excellent series of articles published in The Scientist, The Inequality of Drug Metabolism, concerns itself with this matter, [document #20](#). While absorption and metabolism factors are not distinct to ibogaine and are common to many drugs, individual patient responses to dose and particularly sensitivity of females to ibogaine must be recognized. Obviously, further research is required and the authors request the participation of ibogaine providers to supply relevant reports and data for future revisions of this manual. The FDA in their approval of ibogaine clinical studies in

1993, excluded women. This was in conflict with Institute of Medicine (IOM/United States) guidelines that indicate women should be included in the earliest research testing of drugs. The pharmaceutical industry, principally for issues of liability and cost, tests new drugs only on men in the majority of early clinical studies.

While the drug metabolism for ibogaine and for many pharmaceutical products may be better understood for distinctions between men and women, there is still no fundamental agreement on the responses of men and women to ibogaine. Wells in her very well thought out article, Notes for Treatment Providers, [document #21](#), finds that women appear less responsive and more problematic as patients while Lotsof in his work finds women to be more responsive and less problematic as ibogaine patients. Hopefully, as more people are treated we will see a greater statistical understanding of the patient population.

One author suggests that medical testing should not be included when ibogaine is used as a religious sacrament and that under those conditions a religious exemption to medical testing should be considered valid. The author indicates that persons undergoing religious initiation are questioned at length to their health and not only are they questioned but, those who will accompany them during the initiation are also questioned and advised as to the possibility of death. The author indicates that once the possibility of fatalities are mentioned that usually more significant information is provided as to the health of the initiate. The author also indicates that women initiates are informed they may be at greater risk and are asked should they find the door that allows them to leave this life that they must not take that door as it would be destructive for everyone involved. These descriptions appear to be in keeping with the protocol or rites used within the African Bwiti initiations.

The primary question the authors must address is who may be administered ibogaine?

To that end we must present inclusion criteria for ibogaine therapy or initiation. The terms "therapy" and "initiation" are used, as ibogaine is available in paradigms that include religious initiation, treatment for chemical dependence and administration for psychotherapeutic or "exploratory" purposes.

Inclusion Criteria

"Testing for sexually transmitted diseases is always important in the chemically dependent population," states an author, "so I would also include VDRL to test for syphilis."

1. Subject participation must be voluntary and not coerced.
2. Subject must sign an Informed Consent that indicates and understanding of the risks and benefits of ibogaine administration.

3. Subject must undergo a general medical evaluation by a doctor who will provide a report.
4. Subject must supply a copy of their medical history questionnaire (generally required upon the intake visit to a physician).
5. Subject must respond to a Beck Depression Inventory questionnaire.
6. Subject must obtain an EKG (electrocardiogram) and report.
7. Blood tests including:
 - * **albumin**: 3.9 to 5.0 mg/dl
 - * **alkaline phosphatase**: 44 to 147 IU/L
 - * **ALT (SGPT)**: 6 to 59 IU/L
 - * **AST (SGOT)**: 10 to 34 IU/L
 - * **BUN**: 7 to 20 mg/dl
 - * **calcium - serum**: 8.5 to 10.9 mg/dl
 - * **serum chloride**: 101 to 111 mmol/L
 - * **CO2**: 20 to 29 mmol/L
 - * **creatinine**: 0.8 to 1.4 mg/dl
 - * **direct bilirubin**: 0.0 to 0.3 mg/dl
 - * **gamma-GT**: 0 to 51 IU/L
 - * **glucose test**: 64 to 128 mg/dl
 - * **phosphorus - serum**: 2.4 to 4.1 mg/dl
 - * **potassium test**: 3.7 to 5.2 mEq/L
 - * **serum sodium**: 136 to 144 mEq/L
 - * **total bilirubin**: 0.2 to 1.9 mg/dl
 - * **total protein**: 6.3 to 7.9 g/dl
 - * **uric acid**: 4.1 to 8.8 mg/dl

 - * **RBC** (varies with altitude): (male: 4.7 to 6.1 million cells/mcl) (female: 4.2 to 5.4 million cells/mcl)
 - * **WBC** 4,500 to 10,000 cells/mcl
 - * **hematocrit** (varies with altitude): (male: 40.7 to 50.3 %) (female: 36.1 to 44.3 %)
 - * **hemoglobin** (varies with altitude): (male: 13.8 to 17.2 gm/dl) (female: 12.1 to 15.1 gm/dl)
8. Upon subject meeting all other inclusion criteria and not being excluded by exclusion criteria, subject will be administered a 100 mg (total) test dose of ibogaine. Should the subject not have an adverse or atypical response, a full therapeutic dose of ibogaine may be considered. See exclusion criteria #4.
9. Ibogaine providers following a medical model may require evaluation of cytochrome P450 enzymes activity. Particularly, P450 2D6 (CYP4502D6) plays a significant role in the metabolism of ibogaine to noribogaine, its active metabolite. Testing allows a

determination of whether the patient will be a "poor metabolizer" (PM), "intermediate metabolizer (IM), extensive metabolizer (EM) or "ultra rapid" metabolizer (UM). This testing is now available through commercial laboratories.

Other Inclusion Criteria

- Subject participation must be voluntary and informed.
- Subject must sign an informed consent indicating the risks and benefits of ibogaine.
- Subject must have done some research and investigation into ibogaine and thought about it for some time.
- A comprehensive medical history of the subject submitted either by their GP (if possible) or taken by the treatment provider.
- Subject must obtain an EKG and report.
- Subject must have a liver function test and blood work up and provide the report.
- Subject must sign a form stating that they have not taken any narcotics, cocaine, amphetamines or alcohol for the last 12 hours before arriving and that they have nothing on them.
- Subject must provide a next of kin in case of emergency.⁷⁶

Exclusion Criteria

In order to begin to address the safety of persons being treated with ibogaine, the following indications should exclude treatment with ibogaine. A discussion of these matters by various authors follow the list below.

1. Patients with a history of active neurological or psychiatric disorders, such as cerebellar dysfunction, psychosis, bipolar illness, major depression, organic brain disease or dementia, that require treatment.
2. Patients who have a Beck Depression Inventory score greater than or equal to twenty-four.
3. Patients requiring concomitant medications that may cause adverse ibogaine/other drug interactions (e.g., anti-epileptic drugs, antidepressants, neuroleptics, etc.)

⁷⁶ <http://www.ibogaine.org/wells.html>

4. Patients with a history of sensitivity or adverse reactions to the treatment medication.
5. Patients with a history of significant heart disease or a history of myocardial infarction.
6. Patients with blood pressure above 170 mm Hg systolic/105 mm Hg diastolic or below 80 mm Hg systolic/60 mm Hg diastolic or a pulse greater than 120 beats per minute or less than 50 beats per minute.
7. Patients who have a history of hypertension uncontrolled by conventional medical therapy.
8. Patients who have received any drug known to have a well-defined potential for toxicity to a major organ system within the month prior to entering the study.
9. Patients who have clinically significant laboratory values outside the limits thus specified by normal laboratory parameters.
10. Patients who have any disease of the gastrointestinal system, liver or kidneys, or abnormal condition which compromises a function of these systems and could result in a possibility of altered metabolism or excretion of ibogaine will be excluded. As it is not possible to enumerate the many conditions that might impair absorption, metabolism or excretion, the provider should be guided by evidence such as:
 - A. History of major gastrointestinal tract surgery (e.g., gastrectomy, gastrostomy, bowel resections., etc.) or a history or diagnosis of an active peptic ulcer or chronic disease of the gastrointestinal tract, (e.g. ulcerative colitis, regional enteritis, Crohn's disease or gastrointestinal bleeding).
 - B. Indication of impaired liver function.
 - C. Indication of impaired renal function.
11. Patients with active tuberculosis.
12. Pregnancy⁷⁷

Other Exclusion Criteria

- Significantly impaired liver function
- Any signs of abnormalities on the ECG or any previous heart problems.

⁷⁷ <http://www.ibogaine.desk.nl/manual.html>

- Severe mental health problems such as schizophrenia or bipolar disorder. I don't necessarily think that it would cause adverse reactions with a bipolar disorder but I personally didn't want to bear the responsibility.
- Anyone who was HIV or HEP C symptomatic.
- Anyone on medication for their mental health e.g. antipsychotic medication (except antidepressants).
- Anyone on any long term medication for which there was no data about the interaction with ibogaine or psychoactive compounds.

Regarding the exclusion criteria noted above, I tried to stick to this but was on occasion flexible and took people on who I knew had HEP C and whose livers were not functioning optimally. Most people that I treated were not in good health. Most had been heroin users for 5 year plus and had heavy habits. Several had HEP C and I wouldn't exclude people on this basis. However if they had Hep C and any other health problems such as a stomach ulcer or mental health problems I would probably exclude. Anyone with any heart problems was excluded. Depression and diagnosed mental health problems didn't pose a problem with me unless it was schizophrenia or severe bi-polar. Nearly everyone I treated had depression and several had manic depression alongside agoraphobia or other compulsive disorders. I don't personally agree with modern mental health diagnoses or treatment and think sedation is almost criminal in many cases. Generally mental health disturbances provide an opportunity from which to grow and heal from. They are more of a spiritual or emotional crisis, where experiences no longer fit comfortably into the daily mindset. In these case I believe ibogaine can actually be extremely helpful.

I think it warrants discussion that of the five people treated who had Hep C though not symptomatic no problems were encountered. If anything they perhaps suffered a little more physically from nausea than others but nothing else. The most extreme problem I encountered with anyone was a 35 year old heroin addict who had both Hep C and a stomach ulcer. He vomited blood for several hours (see discussion below).⁷⁸

"Regarding the manual I would disagree with some of the exclusion criteria," says one author. "By excluding patients that are depressed or bipolar you exclude a sizable portion of the addict population. Because ibogaine's metabolites have been shown to have an antidepressant effect it would probably help these patients. Proper treatment for psychiatric conditions can be administered afterward. You will find below some of the experience we have had with patients taking antidepressants prior to ibogaine and since many patients have psychiatric conditions, we don't consider it prudent or necessary to

⁷⁸ <http://www.ibogaine.org/wells.html>

suspend psychotropics for longer than 24 hours before treatment. Below are presented three examples of such patients. All of these patients suspended their medications 24 hours prior to treatment and apparently had no different responses to ibogaine or any unexpected side effects."

- 1) 22 year old male on Prozac (fluoxetine) 20 mg for 14 months.
- 2) 38 year old male on Zoloft (sertraline) 100 mg for 2 years.
- 3) 36 year old female on Paxil (paroxetine) 40 mg for 1 year.

"Since most patients are depressed, a fast acting antidepressant can help in the days after ibogaine. We have found S-adenosyl-L-methionine (SAME) to be useful. If necessary we also prescribe SSRI's. These take about two weeks to start working. Another simple but effective therapy is DHA (omega-3 fatty acids). These reduce depression and stabilize mood."

Commenting on the exclusion criteria, another author states, "I don't think depression should be taken as a contraindication. I've treated a lady with an extreme depression hoping it would help. It didn't. The condition remained unchanged. Of course, one case - no case. People on Oxycontin often claim depression. No wonder - that's what the interruption of oxycontin use usually leads to. Ibogaine is needed to eliminate the addiction. I suggest antidepressants be started immediately after ibogaine therapy under the supervision of a physician."

Further, an author indicates "that Crohn's disease should not be an exclusion criteria as one patient diagnosed with Crohn's disease had the disease placed in remission after ibogaine therapy." While other authors have not had such experience it should be noted that an early report from Dutch Addict Self-Help concerning Hepatitis C being placed in remission resulted in most providers, including then, NDA International, Inc. agreeing to treat patients with HCV whose liver enzymes were not greater than 400% above normal. It must be remembered that we are discussing an experimental medical procedure should that definition be accepted and that medicine itself is diverse in its effects, expectations or adverse events.

A number of authors indicate nonfatal adverse medical events in patients with stomach ulcers. Ibogaine may cause pain and/or bleeding in these patients. Whether this is a matter of irritation to the stomach lining or a more systemic effect is unknown at this time thus, it is unknown whether rectal administration rather than oral administration would overcome this problem.⁷⁹

⁷⁹ <http://www.ibogaine.desk.nl/manual.html>

Treatment Location

The treatment program took place in the tranquil surroundings of The Farm, West Sussex where I lived. There I had a soundproofed studio (previously a recording studio) separate from the main house, surrounded by beautiful countryside. The studio was undisturbed at all times and completely private. Prior consultations took place either in a separate office (again privacy guaranteed) or in the subjects home. I treated two people in their own homes. I definitely think that the results achieved were enhanced when done outside of their own homes. The opportunity to have 3 days divorced from ones normal daily life was much appreciated by most people treated. They knew they wouldn't be disturbed and could relinquish control over the situation and any responsibilities that may bother people in their own homes.⁸⁰

Set and Setting

In my opinion a quiet, tranquil and private environment is optimal for any experience in which one enters into an altered state. Many people state how much they appreciated coming out of the experience into the countryside, being able to sit on the grass surrounded by trees in privacy with no cars, traffic or general public around. The soundproofed room was also optimal although I don't think entirely necessary. Some people claim not to hear anything except the noise in their head so it wouldn't have mattered had there been more noise.

Comfort however is essential as the subject will be lying down for a number of hours and so will experience muscle aches and cramps at various points in the procedure. This can be ameliorated by a comfortable bed and bedding. Ideally I would suggest a TEMPUR mattress.

The question of music is an interesting one. I always told people that if they felt like it all they had to do was ask. No-one asked. When offered only one person accepted. However when I had one subject who didn't come down from the trip for 6 days I used music to help bring her back as I am aware that this is what occurs in the Bwiti (see Giorgio Samorini's work). The music certainly helped ease the tension of the situation. I asked her opinion when she returned and she could not remember the music or indeed that there had been any! So to conclude comfort is essential but anything else, music, smells etc are a personal choice and in my experience most chose not to have them.⁸¹

Addiction Treatment

Attitudes toward ibogaine among clients and counselors in drug treatment programs

⁸⁰ <http://www.ibogaine.org/wells.html>

⁸¹ <http://www.ibogaine.org/wells.html>

While recent years have witnessed a 25% increase in the use of complementary and alternative medications, none of these have come into widespread use in the treatment of opiate dependence. Ibogaine, an hallucinogenic substance from the bark of the Iboga tree in Gabon, has enjoyed a cult following in Europe and Africa for some time. Enthusiasts claim that after ingesting Ibogaine once, their desire for heroin is gone forever. The drug has not been approved by the FDA for use in the United States since animal studies in this country have not been conclusive. To discover whether the treatment community would approve of using Ibogaine treat heroin dependency, Brandeis and Oregon Health & Sciences University surveyed 1,461 clients and counselors in residential, outpatient and methadone programs in Massachusetts and Oregon. Using the Azjen-Fishbein Theory of Reasoned Action as a theoretical framework, the 8 page questionnaire focused on four medications that are used to treat heroin addiction: Ibogaine, Buprenorphine, Methadone and Clonidine. Multiple regression analysis was used to identify demographic characteristics, normative influences and attitudinal factors that were associated with intentions to take Ibogaine. Although 10% of clients and counselors had heard of Ibogaine, none of them had ever used this medication. A substantial minority of 12%, or 161 people, however, claimed that they would use Ibogaine if they had the opportunity. Males, clients (as opposed to counselors), individuals in outpatient clinics, blacks respondents and respondents with less education were more likely to say that they intended to use Ibogaine.⁸²

Fear of Detoxification

Across the board, addicts who enter outpatient treatment programs report that their fear of detoxing from drugs has prevented them from attending treatment. Although withdrawal from cocaine is not as severe or obvious as that from opiate narcotics, there is a fear of the psychological pain of never being able to use again. There is also a dread that once drug free, feelings that have been blocked by self-medicating will surface and be too overwhelming for the patient to handle.

Most heroin addicts are petrified of withdrawal symptoms and are afraid of hospital detoxification. Outpatient clients have stated to me that they have delayed treatment to avoid this anticipated discomfort.

My observations with Ibogaine treated patients have been that patients are eager to be treated when they know that Ibogaine promises to eliminate painful withdrawal, takes one administration with up to seventy-two hours of supervised care, and promises to interrupt their urges to use drugs.

Obstacles Within Traditional Treatment

Returning to the obstacles of treatment, the second being the patients' lack of insight. Insight is necessary for patients to be able to focus and develop goals while in recovery.

⁸² http://apha.confex.com/apha/132am/techprogram/paper_92812.htm

Patients in traditional outpatient groups who have less than ninety days clean, spend more time struggling with their urges to use and dealing with their defenses, specifically denial. They do develop insight into their problems, however, it takes at least one year of group treatment meetings one or two times a week on a regular basis.

In contrast, my involvement with providing aftercare for the Ibogaine treated group showed these patients as having tremendous insight into their own issues, their feelings, and what might have caused them to use in the first place.

After their Ibogaine treatment, patients began to see their drug use as destructive. This realization, coupled with psychotherapy, has allowed these patients to work on how to stay clean and to focus on what they must do to maintain a less destructive lifestyle.

The reason for this insight developed by these patients appears to be the release of repressed material during the visualization stage of Ibogaine treatment. This material includes both images and racing thoughts, which somehow get processed to allow patients to have a better understanding of their emotional histories.

The urge to use drugs again, is the highest cause for people to drop out of traditional treatment. Relapse, I think, is clearly inherent in the definition of substance-related disorders. In working with people treated with or without Ibogaine, my observations have been that relapse at some point is certain.

However, according to members in the Ibogaine group, Ibogaine had reduced their urges to use, anywhere from two months to more than one year. This advantage allowed these patients to get a head start in their recovery, whereas clients in traditional outpatient treatment have a great deal of confusion around how to control their urges. Consequently, those patients have to learn very basic and concrete ways to stay clean as taught by self-help meetings, and emphasized in psychotherapy. The Ibogaine aftercare group did not appear to need self-help type assistance to reduce their urges, but seemed to benefit well from psychotherapy.⁸³

Use against Addiction

Outside Africa, iboga extracts as well as the purified alkaloid ibogaine are used in treating opiate addiction. The therapy may last several days and upon completion the subject is generally no longer physically dependent. One methadone patient said in the Dutch behind-the-news show Twee Vandaag that in just four days he reached a state that normally would have taken him three months, but without the agony. Evidence suggests that ibogaine may also help to interrupt addiction to alcohol and nicotine. The pharmacological effects are rather undisputed with hundreds of peer reviewed papers in support but formal clinical studies have not been completed.⁸⁴

⁸³ http://www.erowid.org/chemicals/ibogaine/ibogaine_faq.shtml

⁸⁴ http://en.wikipedia.org/wiki/Tabernanthe_iboga

In more recent years, Iboga has come to be used as a (non-addictive) recreational drug by a small number of people in Europe and North America. This experimentation, while frequently illegal, has led to interest in iboga by drug addiction researchers. Iboga reportedly has the effect of ending cravings for addictive substances, both illegal (such as heroin) and legal (such as nicotine). Patents on this kind of use for iboga stretch back to 1985 (US 4,499,096).

Today, there is a burgeoning scientific literature about iboga, fueled by researchers who experiment with iboga and iboga-like compounds and try to more precisely elucidate iboga's biochemical effects on the brain. In the United States, where iboga is listed as one of the most illegal narcotics, there are treatment centers which illicitly use iboga to cure heroin addicts and other drug users of their addiction. In other jurisdictions, therapeutic use of iboga is legal. Clearly, there is growing interest in the apparently miraculous ability of iboga to cure some drug addictions. Iboga is gaining scientific respectability and may, in short order, become a hot pharmaceutical property,⁸⁵

Drug Addiction Treatment from Iboga -- Out of Central and West Africa For a very long time, Iboga (*Tabernanthe iboga*) has been used in Central and West Africa. In low doses, the plant serves as a stimulant to maintain alertness, for example, while hunting. In larger doses, it is a hallucinogen, traditionally used for religious purposes by ngangas and in initiation rites,⁸⁶

Use as an Anti-addictive

Currently pharmacological treatments for substance addiction disorders can be broadly defined as falling into two categories; replacement therapy and aversion therapy (Barber and O'Brien, 1999). 1) Replacement therapy includes treatments such as methadone maintenance and non-tobacco nicotine drugs. These therapies replace the drug of abuse with a theoretically safer drug. 2) Aversion therapy includes drugs such as naltrexone and antabuse, which interact with the drug of abuse, causing unpleasant effects such as physical pain, nausea, and vomiting. The hope is that while on these drugs, the patient will avoid use of the drug of abuse, out of desire to avoid the painful side effects.

Ibogaine has distinct advantages over both these models of treatments. Both replacement and aversion therapies are long-term treatments, requiring frequent visits to the clinician over an extended period of time. Conversely, ibogaine therapy, as described previously, involves more intensive intervention over a shorter time frame (Lotsof, 1994). Unlike the drugs used in replacement therapies, ibogaine itself does not appear to be addictive. Repeated administration of ibogaine, at doses of 10 and 40 mg/kg, did not result in dependence in rats as measured by the Primary Physical Dependence test (Aceto, Bowman, and Harris, 1990). A large concern with methadone treatment is its potential for illicit use; it is not uncommon for patients to sell their supply of methadone on the black market, and revert to heroin use (Barber and O'Brien, 1999). As noted earlier, ibogaine is considered to have a low potential for abuse. Aversion therapies, due to their unpleasant

⁸⁵ [Out of Africa: Mysteries of Access and Benefit Sharing](#)

⁸⁶ [Out of Africa: Mysteries of Access and Benefit Sharing](#)

nature, often show high incidences of patient-non-compliance, and subsequent relapse (Barber and O'Brien, 1999). This is generally not an issue with ibogaine therapy; patients treated with ibogaine tend to be more receptive to intervention (Lotsof, 1994).

There is a significant body of evidence supporting ibogaine's efficacy in the treatment of substance addition disorders. Case studies and anecdotal reports of humans have sighted ibogaine's ability to interrupt opiate and cocaine addictions for 6 months or longer (Goutarel, Gollnhofer, and Sillans, 1993; Judd, 1994; Sheppard, 1994; Luciano, 1998; Alper et al., 1999). Clinical trials with non-human subjects have substantiated these results. A single intraperitoneal dose of 40 mg/kg reduced self-administration of cocaine for up to 5 days in cocaine-preferring rats (Cappenijk and Dzoljic, 1994). In support of this finding, intraperitoneal doses of ibogaine at 20-40 mg/kg reduced cocaine-induced hypermotility (Sershen, Hashim, Harsing, and Lajtha, 1992; Broderick, Phelan, Eng, and Wechsler, 1994; Maisonneuve et al., 1997). Some studies, however, have shown increased locomotor activity induced by ibogaine in non-human cocaine and amphetamine dependent subjects (Maisonneuve, Keller, and Glick, 1992; Maisonneuve and Glick, 1992). Maisonneuve et al. (1997) propose that these differences are a result of the time interval between the injections of ibogaine and the given stimulant. Furthermore, ibogaine's effects on stimulant-induced locomotion, as well as on reduction of cocaine self-administration, appear to be dose-dependent (Glick et al., 1994).

Ibogaine has also been shown to reduce morphine self-administration in clinical trials using non-human subjects. In rats, ibogaine dose dependently reduced intravenous morphine self-administration both immediately after injection and the next day, at doses of 2.5-40 mg/kg (Glick et al., 1991). Dworkin et al. (1995) found that intraperitoneal doses of ibogaine at 40 and 80 mg/kg reduced heroin self-administration in rats, but only on the day it was administered. The reason for this discrepancy is not yet clear. In human users of heroin (with a daily average use of 0.64 g), oral ibogaine doses of 6-29 mg/kg eliminated heroin seeking behavior for at least 72 hours in 76% of patients treated (Alper et al., 1999).

In addition to reducing opiate self-administration, ibogaine has been shown to reduce symptoms of opiate withdrawal. In rats, intraperitoneal doses of 40 and 80 mg/kg dose-dependently reduced naloxone-induced withdrawal symptoms; including rearing, head hiding, chewing, teeth chattering, writhing, and penile licking (Glick et al., 1992, Parker et al., 2002). In morphine dependent rhesus monkeys, subcutaneous injections of ibogaine (2 and 8 mg/kg) partially suppressed the total number of withdrawal signs (Aceto, Bowman, and Harris, 1990). Alper et al. (1999) found that, out of 33 human patients treated with ibogaine, 25 reported no subjective complaints of withdrawal symptoms at 24 and 48 hours post-treatment. Ibogaine has also been shown to interfere with both alcohol and nicotine dependency. When administered intraperitoneally or intragastrically, but not subcutaneously, ibogaine dose-dependently reduced alcohol intake in rats, without altering blood alcohol levels or food intake (Rezvani, Overstreet, and Lee, 1995). The difference in effects of route of administration may reflect a role of noribogaine in mediating ibogaine's reduction of alcohol intake. Glick et al. (1998) found that intraperitoneal ibogaine pretreatment (19 hours beforehand) of 40 mg/kg

significantly decreased oral nicotine self-administration in rats for at least 24 hours. Additionally, this ibogaine pre-treatment significantly attenuated nicotine-induced dopamine release in the nucleus accumbens (Benwell, Holtom, Moran, and Balfour, 1996).⁸⁷

History of anti-addictive use

In 1962, Howard Lotsof, a 19-year-old junkie from the Bronx, somehow got hold of a dose of ibogaine and took it. The trip itself was apparently quite remarkable. Far more incredible was the fact that when he came down, he no longer had any desire to take heroin. He eventually took ibogaine on five occasions, one week apart, in a dose-increasing regimen. From this self-administered treatment, Lotsof stayed clean for three and a half years. Later his urge to take heroin returned, but he was unable to obtain ibogaine. He became readdicted for a year and a half, eventually entered a methadone program. Realizing he was still trapped in a vicious circle, he was able to detox from methadone largely due to the experiences he'd had years previously with ibogaine.

In 1980, after his life had stabilized, Lotsof began to work toward making ibogaine available to the public as an addiction interrupter. (Such a treatment modality is completely new; the usual methods are either cold-turkey withdrawal or replacement addiction --e.g.-methadone, which is an opiate just like heroin.) In 1986 he opened NDA International, INC. a company based in Staten Island, NY to promote research into the substance, and ultimately to market ibogaine under the tradename Endabuse. (He is still forbidden by law from doing so.)

Lotsof has also been awarded five US Patents for various ibogaine treatments. This is despite the fact that ibogaine is illegal: somehow it would up a Schedule I substance, right alongside LSD, heroin, marijuana, psilocybin, etc. Paradoxically, ibogaine is all but impossible to obtain in the US: one source reports that less than 4 grams have been seized in over 20 years.

What is especially remarkable about ibogaine as an addiction interrupter is that it not only blocks the addiction drive for approximately six months, but it also nearly totally nullifies withdrawal symptoms. Withdrawal is a debilitating experience for addicts, and can even be fatal in extreme cases. Ibogaine is so effective in this regard that junkies undergoing ibogaine treatment will even request and eat sizeable meals 24-36 hours after their last fix, something unimaginable in normal circumstances.

But this unexplained chemical process is but one aspect of the ibogaine treatment. Crucial to recovery is the trip experience itself. As Naranjo noted in his research, the experience allows the addict to come to terms with life experiences which lead them to manifest addictive behavior. As any recovery specialist will tell you, it is this which must be addressed to truly effect recovery on a long-term basis.

⁸⁷ http://www.erowid.org/chemicals/ibogaine/ibogaine_article3.shtml

Lotsof's findings were replicated in 1990, when the International Coalition for Addict Self-Help (ICASH) reported their findings relative to nine individuals treated with ibogaine for drug dependency. Since then, that body of work has been elaborated on to include 21 case histories of treatments conducted over the last five years.

ICASH has pioneered the paraclinical application of ibogaine by addicts for addicts, using treatment methodology acquired from Dutch counterparts who formed guerilla treatment programs under the banner of DASH (Dutch Addict Self-Help).

These and other studies have confirmed that ibogaine is an effective addiction interrupter for a wide range of addictive disorder including heroin, methadone, cocaine and amphetamine, alcohol, nicotine, and even poly-drug dependency.⁸⁸

Reductions of withdrawal signs and symptoms, drug craving and depression

After administration of 6–29 mg/kg dose of ibogaine, acute reduction in drug craving and opiate withdrawal signs and symptoms are observed in 1–2 h. Resolution of withdrawal was observed during 1 week, reduction of craving and depression – 1 month after exposure. Opiate physical dependence is assessed usually by discontinuation of opiate treatment (spontaneous withdrawal) or by antagonist-precipitated withdrawal.⁴⁹ Usually, acute withdrawal syndrome in case of heroin addiction may begin approximately 8 h after the last heroin dose, peaks in intensity at 24–28 h, and subsides within 7–10 days. In one of the opiate (heroin or methadone) addiction studies including 32 patients, rapid detoxifications of these patients was assessed after single-dose ibogaine treatment (10 mg/kg). Results are summarized in Table 4. The post-ibogaine Objective Opiate Withdrawal Scale (OOWS) blinded rating obtained 10–12 h and 24 h after ibogaine administration (i.e., 24 and 36 h after the last dose of opiate, respectively) was statistically lower than the rating obtained 1 h before ibogaine administration. The OOWS mean total score decreases from approximately 5.6 to 1.1 and 1.9, 12, and 24 h following ibogaine administration, respectively. Authors noticed that objective signs of opiate withdrawal were rarely seen and none were exacerbated at later time points. A second measurement used was “self-reports of withdrawal symptoms according to Opiate-Symptom Checklist” (OP-SCL). This “discomfort” measurement showed statistically significant decreases in mean scores: from approximately 21 (score observed 24 h before ibogaine treatment) to 12 shortly after recovery from ibogaine treatment (<72 h) and down to 7 (at program discharge, approximately 6–9 days later). Impressive success of single dose of ibogaine detoxification process was noticed as well as the fact that many of the patients were able to maintain abstinence over the months following detoxification.⁴⁹ This relatively small study suggests that methadone withdrawal was not more difficult to detoxify than heroin withdrawal. Speculation that long-acting metabolite noribogaine may account for the efficacy of ibogaine can be done. Craving is an important symptom reported by opiate-dependent subjects during the early stages of withdrawal contributing to continued drug use.^{49,92} Craving symptoms for opiates could be evaluated by using the “Heroin Craving Questionnaire scales (HCQN-29)”. Thirty-six

⁸⁸ <http://leda.lycaenum.org/?ID=8598>

hour post-ibogaine treatment, the mean scores on five measures about specific aspects of drug craving (including urges, thoughts about drug of choice, or plans to use the drug) show significant decreases and lasted at program discharge. Evaluation of patients using Beck Depression Inventory scores showed also significant reduction of scores both at program discharge and at 1-month follow-up assessments.^{49,56} Subjects undergoing cocaine detoxification also reported significant decrease in drug-craving 36 h post-ibogaine treatment and at discharge for three of the five category scales of the Cocaine Craving Questionnaire (CCQN)-45 (anticipation of positive outcomes, relief of negative states, and lack of control). There is only limited retrospective experience in long-term outcomes (Figure 3).^{8,88,93} No clear negative or positive conclusions could be drawn. It seems that relapses could be attempted with ibogaine re-challenge, as this was done several times in anecdotal cases. It seems that pharmacodynamic effects experienced by patients varied and may be related to dose, bioavailability, and interindividual variabilities.⁸⁹

Ibogaine in the treatment of heroin withdrawal

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Ibogaine is a naturally occurring psychoactive indole alkaloid derived from the roots of the rain forest shrub *Tabernanthe iboga*. It has been suggested that the alkaloid reduces craving for opiates and other illicit drugs, and has ameliorative effects in acute opioid withdrawal. However, objective investigations of ibogaine's effects on drug craving, and the signs and symptoms of opiate withdrawal, have not been done in either research or conventional treatment settings. We have had the opportunity to describe the clinical experience of a series of patients undergoing opiate detoxification with ibogaine. The study was conducted in a 12 bed freestanding facility in St. Kitts, West Indies. The treatment program had a planned duration of 12 to 14 days and stated goals of: (1) safe physical detoxification from opiates, (2) motivational counseling, and (3) referral to aftercare programs and community support groups (12 step programs). Physical dependence on opiates is characterized by a distinctive pattern of signs and symptoms that make up the naturalistic withdrawal syndrome. Objective signs of opiate withdrawal were rarely seen and none were exacerbated at later time points. The results suggest that ibogaine provided a safe and effective treatment for withdrawal from heroin and methadone. These preliminary results demonstrate that single doses of ibogaine were well tolerated in drug-dependent subjects. Our observations of the safety of ibogaine have not been limited to opiate-dependent subjects. To date, we have evaluated ibogaine's safety in more than 150 drug-dependent subjects that were assigned to one of three fixed-dose treatments under open label conditions; 8, 10, 12, mg/kg ibogaine. To date, no significant adverse events were seen under these study conditions.⁹⁰

⁸⁹ <http://het.sagepub.com/cgi/content/abstract/27/3/181>

⁹⁰ <http://www.ibogaine.org/chronology.html>

Ibogaine for combatting drug dependencies according to Howard Lotsof

In the early 1960s, a young American, Howard Lotsof, during the course of a drug party with some friends, offered six of them the trial of a single dose - about 500 mg - of ibogaine.

While interest in ibogaine may have started with this drug party, the unique effects of ibogaine became immediately evident in that it was not a substance conducive to such parties. There followed a period of six months of lay research which provided a dose-related response study ranging from 1 mg/kg to 19 mg/kg of ibogaine in both addict and non-addict human subjects.

Five of Lotsof's seven friends gave up the use of drugs during these six months. As for young Lotsof, who had permanently recovered, he rebuilt his life, and although he was not a physician or a psychologist, he dreamed ("I had a dream", he told us the first time we met, paraphrasing the minister Dr. Martin Luther King), he dreamed that he would be the one who would contribute to curing drug addicts by providing them ibogaine.

H. Lotsof collected all the available documentation on iboga and ibogaine and, as a good American and businessman, founded a New York corporation, NDA International, Inc., whose purpose was partly a humanitarian mission and partly the marketing of a proprietary pharmaceutical preparation, Endabuse, composed of capsules of ibogaine hydrochloride.

In 1985, H. Lotsof took out a U.S. Patent on a Rapid method for interrupting the narcotic addiction syndrome,(Lotsof, H. 1985)³⁶, followed by another one in 1986 on a Rapid method for interrupting the cocaine and amphetamine addiction syndrome (Lotsof, H. 1986)³⁵ and subsequently yet another in 1989 for a Rapid method for attenuating the alcohol dependency syndrome.(Lotsof, H. 1989)³⁴, and in 1991 for a Rapid method for interrupting or attenuating the nicotine/tobacco dependency syndrome.³⁷

The heroin addiction syndrome had been interrupted in 5 of the 7 subjects described in the first patent.

A single treatment with ibogaine or ibogaine hydrochloride administered orally at a dosage ranging from 6 mg/kg to 19 mg/kg made it possible to interrupt the use of heroin for at least six months.

The duration of the treatment is about 30 hours, and ibogaine exerts a stimulant effect during this period. An abreactive process takes place during the treatment but does not become evident until the patient awakens from a natural sleep that occurs after the primary and secondary effects of ibogaine are diminished.

The drug addicts no longer desire to take heroin and show no perceptible signs of physical withdrawal. The subjects are relaxed and express themselves coherently. They demonstrate a feeling of self-confidence.

Lotsof describes the effects of the oral administration of ibogaine and divides these effects into three stages, comparable to the four stages of the Bwiti of the Mitsogho.

These three stages are described perfectly in the interview by the journalist Max Cantor 33 with a 44-year-old subject who had been a cocaine addict for more than eight years and was treated by the Lotsof procedure.

1st stage: 15 to 20 minutes after the start of the treatment, a numbing of the skin is accompanied by an auditory buzzing and an oscillating sound. Objects appear to vibrate intensely.

The first visions appear after an hour. Suddenly, on the walls, there appears a screen on which the subject views pictures that may be archetypes, more or less deformed animals, an abyss lit up by lightning, etc., or more personal episodes related either to childhood or to more recent events.

The subject may question the persons he sees, identify with one of them, be at the same time a spectator and an actor. He views a film of his subconscious and his repressed memories. He looks within himself.

2nd stage: 5 to 10 hours later, the visions cease and cutaneous sensitivity begins to return. This stage is marked by an unusually high energy that lasts 5 to 8 hours, during which the subject sees flashes of light around him. Then comes what the subject calls the question-and-answer period. He analyzes the visions that he remembers, seeks an interpretation and may communicate with the people around him.

Ibogaine shows him where his problem is. He has the impression that a reset button has been actuated. Everything is erased, everything becomes sharp and clear. He knows where his life took the wrong turn and what he must do to get back on the right path.

This question-and-answer period may last 20 hours, during which the subject remains under medical supervision.

3rd stage: the subject remains awake from a residual stimulation for up to 20 hours and then goes to sleep for as short a period as two hours and will wake up in top form, provided he is young and his general health had been good previously, with a new self-confidence, feeling no more need to take drugs.

Mr. Lotsof, who knew of us, O. Gollnhofer, P. Potier (Member of the French Academy of Sciences, Professor at the Museum of Natural History in Paris, Director of the Institute of Chemistry of Natural Substances, C.N.R.S., Gif-sur-Yvette, 91190 Essonne, France) and R. Goutarel, through his bibliographical documentation, came to France and contacted us. We were able to get some appointments, with Mr. Lotsof, at the Ministry of Health when Madame Barzach was Minister. We must say that we were received with courtesy and some skepticism. And then, Ministries change...

Our impression was that the people we met with, still impressed with the failures of LSD, were always afraid of making some mistake for which they would have been held accountable.

And yet, around the same time, in Figaro Magazine of February 14, 1987, there was a story on a shock treatment administered by the Buddhist monks of ThamKrabok monastery in Thailand that resembles uncannily what is observed during the chewing of iboga.

A spectacular sequence presented to Madame Barzach and shown on television on the program 7/7 hosted by Madame Sinclair was the vomiting of the patients who, according to the commentator, had to get rid of the poisons in their system. Unfortunately, the drug was being kept secret, and it was said that Minister Chalandon had sent an observer over there to learn the secret. That secret seems obvious to us, and we know Apocynaceous plants from Asia containing ibogaine derivatives which, in all likelihood, have the same oneirophrenic properties as the latter.

At this time, Mr. Lotsof, who went to Gabon to collect a certain quantity of iboga, is having experiments pursued in several countries. Excellent results are being reported in the European and North American press. There have been several interviews with subjects successfully treated by the Lotsof procedure.

Thanks to him, basic research is being conducted at Erasmus University of Rotterdam, at the Addiction Research Foundation in Toronto, at Albany Medical College, N.Y., and through the Committee on Problems of Drug Dependence of the N.I.H., Bethesda, Maryland, for the purpose of investigating the different body systems, the CNS in particular, in which ibogaine is involved. Blockade of morphine-induced stimulation of mesolimbic and striatal dopamine by ibogaine has recently been demonstrated by the Albany Medical College researchers.³⁸

The 1967-68 resolutions of the World Health Assembly classified ibogaine among the drugs capable of producing dependency or impairing human health.

When all is said and done, this alkaloid had been found guilty of the charge of being a hallucinogen similar to LSD, whose hazards for those who use it had recently come to light.

The fact is, however, that even though ibogaine is considered as a hallucinogen (oneirophrenic), it produces no drug dependency and it has proved to suppress dependency to opiates, amphetamines, cocaine, LSD and even alcohol and tobacco.

As for "impairing human health", the Gabonese experience shows that this is simply not true, quite the contrary.

The 1967-68 decree never did put an end to the illegal trade in amphetamines (the famous Ecstasy pill), nor to the trade in LSD. However, on that market, one never finds iboga or ibogaine.

According to Dhahir (1971) 14, the appearance of ibogaine on the illegal drug market was reported in 1967 by the police of Suffolk County, N.Y., on a single occasion, when it was used to dilute heroin, and after Haight Ashbury it was reportedly used by young addicts in San Francisco as a substitute for LSD.

Ibogaine suddenly disappeared from the market and it seems that the drug dealers rapidly became aware of the fact that its use would deprive them of part of their clientele.⁹¹

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After years of review of reports of hundreds of ibogaine patient treatments, the effective dose for the treatment of chemical dependence, including opioid dependence, has been seen to be between 15 mg/kg and 20 mg/kg of ibogaine. It has been reported by some researchers that lower doses are effective but, this has been disputed. Effects of ibogaine generally will make themselves evident within 45 minutes to as long as, three hours after administration. In most cases opioid withdrawal signs will be reduced within 45 minutes of ibogaine administration. Ibogaine is usually administered in place of what would be the next scheduled dose of narcotics. This would provide for an ibogaine administration schedule 8 hours after the last dose of heroin, morphine or demerol and 24 hours after the last dose of methadone. It is expected that the patient would be exhibiting minor withdrawal signs at the time of ibogaine administration. There is no experience with ibogaine in the treatment of LAAM dependence.

Another issue pursuant to dose is that of dose increases, should anticipated effects including the diminishment of opioid withdrawal not be seen. Modification upwards of ibogaine doses have been used occasionally within medical environments and commonly by some lay providers as well as, within the African religious context. The issues remain of ability to respond to medical emergencies and of the experience of the provider to determine the safety at any time of the patient. It may be prudent to allow the primary dose of ibogaine to run its course and then provide a second dose a week later if required. That is, if the patient is still chemically dependent or exhibiting drug craving?

Once ibogaine has been administered, effects follow. The patient will usually want to lay prone and should be encouraged to remain still as nausea and vomiting as well as, being systemic have been seen to be motion related. The skin tends to become numb. Patients will report an initial buzzing or oscillating sound. A period of dream-like visualization lasting for 3 to 4 hours in most but, not all patients is considered to be the first prominent stage of ibogaine effects. This stage ends abruptly should it occur at all. Another aspect of ibogaine effect that is common are random flashes of light that appear everywhere with eyes open. This may last for hours or days. Visualization on the other hand is most common with eyes closed.

⁹¹ <http://ibogaine.desk.nl/bwiti1.html#lotsof>

The second stage that follows visualization has been described as one in which the subject principally experiences cognitive evaluation or a review of issues that are important to the subject. These may cover every possible scenario from early childhood experiences to current health issues. This period may last for as few as 8 hours or for 20 hours or longer.

The third or final stage of ibogaine effects is that of residual stimulation. This stage, because it tends to leave the subject/patient exhausted is somewhat uncomfortable. Subjects may remain awake for two or more days. Most patients will sleep within 48 hours of ibogaine administration. Some within 24 hours of administration. Usually, there is a long term long term diminishment of the need for sleep over weeks or months. Some patients may require or request sedation. Sedatives that have been used include benzodiazepines, barbiturates and melatonin.

The effects herein described are those of single administration high dose ibogaine regimens. Ibogaine has also been given in regimens of small daily doses of 25 mg to 300 mgs/day and in small daily doses where the dose is increased on a daily basis until the desired interruption of drug dependence is accomplished. These low dose modalities have not been validated for efficacy to the same extent as have the full therapeutic doses of ibogaine. However, these low dose regimens can be traced back some decades to the work of Leo Zeff who in the case of a single patient provided ibogaine on an "as needed" basis via nasal administration to a cocaine dependent patient to substitute for his cocaine use. Lines of ibogaine were somewhat equivalent to lines of cocaine and the patient ceased cocaine use after a week of this daily self-regulated ibogaine regimen. Additionally, reports from Canadian sources indicate multi-week low dose ibogaine therapy 20 mg/day following a therapeutic dose of ibogaine in the treatment of cocaine dependence. Further, reports throughout the ibogaine provider community indicate the use of multiple dosing of varying strength doses over varying time periods in the treatment of opioid dependence. As with all determinations in medicine, decisions must be made on observations of the patient and knowledge of the disorder(s) and the medication(s) used.⁹²

Interesting Studies concerning Ibogaine and Addiction

Decreased Drug Craving During Inpatient Detoxification with Ibogaine

Previous observations of ibogaine's effects have indicated that it may be useful for reducing drug craving for a significant period. The present study involved administration of a single psychoactive dose of ibogaine in a clinical setting to treatment-seeking patients having a chemical dependency on opiates or cocaine. Patients underwent Structured Clinical Interviews for assignment of Axis I and Axis II diagnoses, with admission and outcome measures of life improvement or impairment given by summary scores from the Addiction Severity Index. Patients reported three times on aspects of

⁹² <http://www.ibogaine.desk.nl/manual.html>

craving by completing "at-the-moment" craving questionnaires for cocaine (CCQ-NOW and MCCS), and heroin (HCQ-29-NOW), as well as their health symptoms and mood via the SCL90-R, BDI, and POMS. In terms of the four factors found by Tiffany et. al. (1993) to be common to the CCQ-NOW and the HCQ-NOW, preliminary analyses show decreased heroin and cocaine craving following ibogaine, especially at nine days after treatment. Decreased cocaine craving was supported by reduced scores in the visual analog scales of the MCCS, and reduced frequency and duration of "craving" episodes. On global scores from mood and health questionnaires, patients reported few to no withdrawal signs or negative health consequences following treatment, suggesting that single-dose ibogaine may assist chemically-dependent individuals in the early stages of abstinence. Sponsored in part by the Addiction Research Foundation.⁹³

Facilitation of memory retrieval by the “anti-addictive” alkaloid ibogaine

Ibogaine, an indole alkaloid derived from *Tabernanthe iboga*, has been claimed to decrease dependence and the severity of withdrawal symptoms produced by addictive substances including opiates, stimulants, ethanol and nicotine (7). While anecdotal, these claims are consistent with recent preclinical findings demonstrating that ibogaine decreases preference for cocaine and morphine, reduced morphine self-administration and attenuates symptoms of morphine withdrawal (for review, see ref. [5]). Several hypotheses have been proposed to explain the inhibitory effects of ibogaine on drug seeking behavior. Although ibogaine affects a number of neurotransmitter systems (5) only few of them could be considered as a potential target of its anti-addictive properties. It has been estimated that at a typical dose of - 40-80 mg/kg administered to rats or mice, brain concentration of ibogaine is sufficient to affect α (K_i for (32 sites - 250 nM). NMDA (K_i - 1 mM) or K opioid (K_i - 2-3 mM) neurotransmitter systems (5). A likely explanation of ibogaine's anti-addictive effects was offered by linking evidences of anti-addictive properties of NMDA receptor antagonists (for review see ref. [141]) with NMDA - antagonistic properties of ibogaine (3). The NMDA antagonistic activity of ibogaine fails to explain the present findings however. The previously reported inhibition of drug-seeking behaviors by ibogaine has been demonstrated at doses of > 40 mg/kg of this alkaloid while ibogaine facilitated memory retrieval at much lower doses (0.25 - 2.5 mg/kg) that are unlikely to affect NMDA receptors *in vivo*. The NMDA-mediated action of ibogaine cannot explain also the facilitation of memory retrieval by O-desmethyl-ibogaine, a compound that affects NMDA receptor complex with affinity - 5 fold lower than that of ibogaine (9). Although O-desmethyl-ibogaine mimics inhibitory effects of ibogaine on drug seeking behaviors in some (15) but not other (9) studies, the doses needed for these effects (> 40 mg/kg) are - 20 times higher than doses needed for facilitation of memory retrieval effects. Similarly, at doses effective in the present experiments, ibogaine and O-desmethyl-ibogaine are unlikely to affect opioid K receptors.

At commonly used doses, ibogaine may disrupt memory acquisition; in fact, Kesner and colleagues (16) found recently that 40 mg/kg of ibogaine had inhibitory effect on spatial learning. Learning and memory processes are typically affected by drugs in an inverted U shaped dose-response curve in that low doses have opposite effects from high doses (17).

⁹³ http://www.erowid.org/references/refs_view.php?ID=7240

It may thus be assumed that at the doses effective in the present experiment (0.25-2.5 mg/kg) ibogaine may affect neurotransmitter system(s) for which it possesses an even greater affinity. At nanomolar concentrations, ibogaine binds to α sites (K_d for CQ sites - 250 nM) (5,18). However, the inability to facilitate memory retrieval by the structurally related t-Butyl-ibogaine (ibogaine analog designed to resist O- dealkylation, a likely way of ibogaine's metabolic degradation [9]), a high affinity α_2 ligand (K_d - 340 nM) indicates that α sites are unlikely target. This conclusion is supported by the fact that another ibogaine derivative that was effective in the present experiments, 0-desmethyl-ibogaine (ibogaine putative metabolite [19]) possesses much lower (micromolar) affinity for α sites (20). According to Regan (8) the therapeutic 'anti-addictive' action of ibogaine involves the release of repressed memories, intellectual re-evaluation of memories, and integration of new insights into the personality of the patient. Although this hypothesis remains highly speculative and so far was not deeply evaluated in the clinical settings, the ability of ibogaine and 0-desmethyl-ibogaine to facilitate memory retrieval in rats seems consistent with it. Based on the comparison between potencies of ibogaine-related compounds to affect various neurotransmitter systems and to facilitate memory retrieval, it is likely that the potential target for at least some of ibogaine's effects remains to be identified.⁹⁴

Development of ibogaine as a pharmacotherapy for drug dependence

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The potential for deriving new psychotherapeutic medications from natural sources has led to renewed interest in rain forest plants as a source of lead compounds for the development of antiaddiction medications. Ibogaine is an indole alkaloid found in the roots of *Tabernanthe iboga* (Apocynaceae family), a rain forest shrub that is native to equatorial Africa. Ibogaine is used by indigenous peoples in low doses to combat fatigue, hunger and in higher doses as a sacrament in religious rituals. Members of American and European addict self-help groups have claimed that ibogaine promotes long-term drug abstinence from addictive substances, including psychostimulants and cocaine. Anecdotal reports attest that a single dose of ibogaine eliminates withdrawal symptoms and reduces drug cravings for extended periods of time. The purported antiaddictive properties of ibogaine require rigorous validation in humans. We have initiated a rising tolerance study using single administration to assess the safety of ibogaine for treatment of cocaine dependency. The primary objectives of the study are to determine safety, pharmacokinetics and dose effects, and to identify relevant parameters of efficacy in cocaine-dependent patients. Pharmacokinetic and pharmacodynamic characteristics of

⁹⁴ http://www.sciencedirect.com/science?_ob=ArticleURL&_udi=B6T99-3W2Y6FR-S&_user=499911&_rdoc=1&_fmt=&_orig=search&_sort=d&view=c&_version=1&_urlVersion=0&_userid=499911&md5=e69665279515127e3b0a005a780279bb

ibogaine in humans are assessed by analyzing the concentration-time data of ibogaine and its desmethyl metabolite (noribogaine) from the Phase I trial, and by conducting in vitro experiments to elucidate the specific disposition processes involved in the metabolism of both parent drug and metabolite. The development of clinical safety studies of ibogaine in humans will help to determine whether there is a rationale for conducting efficacy trials in the future.⁹⁵

Treatment of acute opioid withdrawal with ibogaine.

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Ibogaine is an alkaloid with putative effect in acute opioid withdrawal. Thirty-three cases of treatments for the indication of opioid detoxification performed in non-medical settings under open label conditions are summarized involving an average daily use of heroin of .64 +/- .50 grams, primarily by the intravenous route. Resolution of the signs of opioid withdrawal without further drug seeking behavior was observed within 24 hours in 25 patients and was sustained throughout the 72-hour period of posttreatment observation. Other outcomes included drug seeking behavior without withdrawal signs (4 patients), drug abstinence with attenuated withdrawal signs (2 patients), drug seeking behavior with continued withdrawal signs (1 patient), and one fatality possibly involving surreptitious heroin use. The reported effectiveness of ibogaine in this series suggests the need for systematic investigation in a conventional clinical research setting.⁹⁶

Mechanisms of antiaddictive actions of ibogaine.

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Ibogaine, an alkaloid extracted from *Tabernanthe iboga*, is being studied as a potential long-acting treatment for opioid and stimulant abuse as well as for alcoholism and smoking. Studies in this laboratory have used animal models to characterize ibogaine's interactions with drugs of abuse, and to investigate the mechanisms responsible. Ibogaine, as well as its metabolite, noribogaine, can decrease both morphine and cocaine self-administration for several days in some rats; shorter-lasting effects appear to occur on ethanol and nicotine intake. Acutely, both ibogaine and noribogaine decrease extracellular levels of dopamine in the nucleus accumbens of rat brain. Ibogaine pretreatment (19 hours beforehand) blocks morphine-induced dopamine release and

⁹⁵ <http://www.ibogaine.org/chronology.html>

⁹⁶ <http://www.ibogaine.org/chronology.html>

morphine-induced locomotor hyperactivity while, in contrast, it enhances similar effects of stimulants (cocaine and amphetamine). Ibogaine pretreatment also blocks nicotine-induced dopamine release. Both ibogaine and noribogaine bind to kappa opioid and N-methyl-D-aspartate (NMDA) receptors and to serotonin uptake sites; ibogaine also binds to sigma-2 and nicotinic receptors. The relative contributions of these actions are being assessed. Our ongoing studies in rats suggest that kappa agonist and NMDA antagonist actions contribute to ibogaine's effects on opioid and stimulant self-administration, while the serotonergic actions may be more important for ibogaine-induced decreases in alcohol intake. A nicotinic antagonist action may mediate ibogaine-induced reduction of nicotine preferences in rats. A sigma-2 action of ibogaine appears to mediate its neurotoxicity. Some effects of ibogaine (e.g., on morphine and cocaine self-administration, morphine-induced hyperactivity, cocaine-induced increases in nucleus accumbens dopamine) are mimicked by kappa agonist (U50,488) and/or a NMDA antagonist (MK-801). Moreover, a combination of a kappa antagonist and a NMDA agonist will partially reverse several of ibogaine's effects. Ibogaine's long-term effects may be mediated by slow release from fat tissue (where ibogaine is sequestered) and conversion to noribogaine. Different receptors, or combinations of receptors, may mediate interactions of ibogaine with different drugs of abuse.⁹⁷

Fighting the Urge to Drink: Molecule moderates heavy-drinking rats

Researchers at the University of California at San Francisco have found that one dose of natural brain chemical can dampen a Plant with large, glossy green leaves bears small, smooth orange and green pods rat's desire to drown its troubles in alcohol. Ten minutes after injecting a tiny jolt of GDNF (glial-derived neurotrophic factor, if you must know) into the brain, guzzling rats turn into social drinking rats, if not ax-wielding Carrie Nations.

Ibogaine, from the African shrub *Tabernanthe iboga*, is a hallucinogen that also combats drug addiction.

Which is not to belittle the enormous toll of our most dangerous drug. Almost 10 million Americans abuse alcohol, based on a 2002 survey. Almost 40 percent of fatal traffic crashes were due to the drug in 2004.

The GDNF story begins with ibogaine, a compound derived from a West African shrub. "In the 1960s, ibogaine made its way to the illegal drug market in the United States because it is hallucinogenic, which is probably why it is also used for religious rituals in West Africa," says Dorit Ron, an associate professor of neurology at UCSF.

People who took the drug to get high "reported that ... it stopped all their desire to use other drugs," she adds. Since then, rodent studies have showed that ibogaine has "very desirable properties against various drug of abuse" that operate through a reward pathway based on the brain chemical dopamine.

⁹⁷ <http://www.ibogaine.org/chronology.html>

Although ibogaine is used in some countries to treat addiction to heroin, cocaine and alcohol, "It is a dirty drug, it has nasty side effects," Ron adds, "hallucinations, tremors, heart arrhythmia, so it is not used in the United States."

Graphic shows flattened surface of receptor in pink, ready for uptake of dopamine, shaped like blue shards

Dopamine is a "feel-good" neurotransmitter that conveys a reward for many behaviors, including taking drugs. Dopamine can bind to dopamine receptors on a neighboring neuron, transmitting a positive message down the neural telephone. National Institute on Drug Abuse

Making a mechanism

Even so, ibogaine is providing clues to combating drug abuse, Ron says. In 2005 and 2006, her lab showed that ibogaine seems to dampen a rat's urge to drink by raising the level of GDNF, a brain chemical that contributes to the growth of kidneys and the spinal cord.

In a study reported last week, Ron and colleagues found that one dose of GDNF, if injected into a region of the brain that is a critical enabler of addictive behavior, can attenuate the urge to drink in rats. (That region, called the ventral tegmental area, will not be on the test...)

The researchers plopped a rat into a cage equipped with a lever that supplied a drink of alcohol and water when pressed three times. To assess the rat's motivation to drink, they simply counted lever presses. ""The solutions are bitter, not something that any human would want to drink, unless they were hard core alcoholics. However, the rats are motivated to drink it because it is rewarding just like alcoholic beverages," says Ron, who is principal investigator at the UCSF's Ernest Gallo Research Center. The center is funded, appropriately enough, by a founder of Graph shows one white bar and three gray bars, descending from left to rightE&J Gallo, a giant wine maker that has for decades produced, among other products, a high-alcohol "bum wine" called Thunderbird that has long been a centerpiece on skid rows across the nation.

In one experiment, rats were offered at 10 percent solution of alcohol. Those that got the strongest dose of GDNF pressed the lever half as much as control rats, who got no GDNF injections.

Within 10 minutes, GDNF reduced the motivation to press a lever and obtain a slurp of 10 percent alcohol. Higher doses are more effective, indicating that GDNF did cause the change in behavior. Graph adapted from Carnicella et al...

A second experiment tested the effect of GDNF in a model that resembles excessive alcohol consumption. The rats drank a solution of 20 percent alcohol (which resembles the behavior of heavy drinkers) for a long period. Again, the GDNF-treated rats showed a

massive reduction in drinking. Overall, Ron says, "The action of GDNF is rapid, but sustained, it lasts for quite a long time."

Graph shows one white bar above number 0 and two gray bars, above 5 and 10 respectively, descending from left to right. A single shot of GDNF affected the urge to drink 20 percent alcohol for at least three hours. Graph adapted from Carnicella et al...

Relapse city?

A third experiment concerned relapse, a common problem in many addictions. "Relapse can be evoked by one drink of alcohol," Ron says. "You think you are okay, you haven't been drinking for several years, you get one, and you relapse."

After training another group of rats to get booze by pressing a lever, the researchers shut off the alcohol and the rats, as miserable as a dead-broke wino, eventually gave up, returning to a lackadaisical level of lever-pressing that was due to boredom or to curiosity, but not any expectation of a boozy reward.

Suddenly, after two weeks, lever-presses again began to produce a slurp of booze. The control (untreated) rats immediately fell off the wagon and resumed a rapid rate of lever-pressing, but the rats that had received one shot of GDNF were much less diligent about pressing the lever, indicating less desire to drink.

Didn't do

Just as important was what GDNF did not do. Drugs that inhibit the urge to drink affect the dopamine pathway, which also rewards benign actions like eating sweets. After one dose of a natural brain chemical, rats were much less eager to drink alcohol. These drugs, including naltrexone, "reduce the pleasure system, and people don't feel good, so they don't take them," Ron says.

Treating rats with GDNF, however, did not affect their sweet tooth, as measured by sucrose consumption.

Ron sees many similarities between the regulation of drug intake in rats and people: "The genes are very similar, we know that alcohol and other drugs of abuse work through the same reward pathway, in the same brain region." Nevertheless, a rat study does not prove what will happen in people -- even the most rat-like ones.

Yet Ron seems to be holding an ace in the hole. "We have a follow-up study that suggests this may be used [in people] sooner rather than later, but we are not thinking of squirting GDNF into the brains of alcoholics."⁹⁸

Observations on Treatment With Ibogaine

⁹⁸ <http://whyfiles.org/shorties/262alcohol/>

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I was given the opportunity to be present while three addicted patients were administered ibogaine hydrochloride . This agent is a hallucinogenic indole alkaloid reported to be effective in the treatment of addiction to multiple drugs of abuse, including opiates, stimulants, and alcohol. I would like to relate my observations as a neurologist concerning clinical and EEG examinations performed during and after treatment. All three were addicted to cocaine (intranasal, intravenous [IV], or crack: 0.5-8 gm/day), one to heroin (1 gm/day IV), and two to alcohol. Screening medical and psychiatric examinations were performed, as well as laboratory exams, including ECG, EEG, and MRI. Ibogaine hydrochloride was administered in capsule form (20-25 mg/kg). General medical monitoring was continuous, and neurologic/EEG studies were performed intermittently over 24 hours. Patients were kept in a quiet, darkened room and generally remained lying in bed. Regarding neurological signs: all patients developed transient cerebellar dysfunction within 2 hours, which was variably expressed as nystagmus, intention tremor without dysmetria, and gait ataxia. Signs were present but improved at 8 hours. Visual hallucinosis with eyes closed was seen in only one patient. Reality-testing remained normal in all, and there were no signs or symptoms of anxiety or thought disorder. Routine EEG studies were normal in all cases, during and after treatment. No general medical or ECG abnormalities were seen. At 24 hours after treatment, all neurologic examinations were normal, and patients did not have subjective or objective signs of withdrawal or craving. My observations suggest that ibogaine causes transient vestibulocerebellar dysfunction, not unlike other soporifics, and is generally well tolerated.⁹⁹

Preparation of a Treatment

The Patient

The prospective client should attend several informal interviews to ensure he or she is fully aware of the following information relating to ibogaine treatment:

(i) - that ibogaine is principally a detox tool and that, whilst it can help with drug-craving for brief periods as well as help a person understand why they started using drugs, it will still be up to them to stay off. As a general rule, addicts who regard ibogaine as simply something which is supposed to "cure them" rarely have success.

⁹⁹ <http://www.ibogaine.org/chronology.html>

(ii) - that ibogaine is an experimental medication, not recognized as a licensed medicine anywhere in the Western world, and that other options for treating their addiction exist.

(iii) - that deaths have occurred in association with ibogaine treatment, and that it must therefore be regarded as having a definite level of risk, though proper client screening procedures should be able to keep this to a minimum. Specifically, anyone with any history of heart problems should be very wary of taking ibogaine. In recent years there have been several reports of mysterious deaths associated with cardiac problems.

A basic level of physical and psychological screening is essential prior to a person being considered suitable for ibogaine treatment. A blood test should be undertaken to check for liver abnormalities and to ensure general health is good. An EKG should be undertaken to check heart function. Problems with the liver, heart or lungs should result in exclusion from treatment unless subsequent professional medical opinion advises to the contrary. Many long-term addicts may have developed medical health problems which would make ibogaine treatment in a non-clinical setting dangerous. These tests can be often be organized by drug dependency units or private doctors.

Attention should also be paid to the clients' mental state. Persons exhibiting signs of significant mental disorder should be excluded from treatment.¹⁰⁰

Treatment Prepatation

It is very important that the client's drug intake be regulated for 24 hours prior to taking the main dose of ibogaine. This will prevent the ibogaine from reacting with any other drugs still in the body, which research indicates may lead to adverse reactions. This means that no heroin, no cocaine and no other drugs should be taken for a minimum of 12 hours prior to taking the main dose of ibogaine. No methadone for a minimum of 24 hours. Drug use for the days prior to treatment should therefore be planned in advance to ensure this is possible. In addition, no stimulants should be taken for at least 24 hours prior to taking the main dose of ibogaine. Normal doses of benzodiazepines like valium can safely be taken prior to ibogaine to assist in reducing anxiety or to help the client sleep if necessary.

¹⁰⁰ <http://www.ibogaine.co.uk/ibogaine6.htm#six>

Ibogaine is recognized as having the ability to potentiate other drug reactions, meaning it is very important persons under its influence do not get access to drugs. Any level of opiate or cocaine usage whilst on ibogaine could be very dangerous.

24 hours prior to taking the main dose of ibogaine, a test dose of about 100mg of the drug should be taken. Allergic reactions have not been reported to the best of the writer's knowledge but, in the event of one occurring, the treatment should not proceed. Some minor level of ataxia, (difficulty in standing upright), nausea, and aural amplification may be experienced at this dose level. This is quite normal.

Food consumption should cease about 12 hours prior to the main dose of ibogaine being taken. To make this easy to bear, many people take ibogaine first thing in the morning, as a replacement for their morning fix. 1 hour prior to taking the main dose, an anti-nauseant such as domperidone (or similar travel sickness medication) may be taken to try and reduce nausea.

The treatment setting is important in that the client should feel relaxed and relatively easy in themselves. This will help to limit anxiety. Noise should be low throughout (ibogaine causes sounds to be heard much louder than usual), and the light level adjustable. Remember that ibogaine incapacitates some people for several days, so make sure that peaceful, dimly lit conditions can be maintained.

A "sitter" should be present with the client for the duration of the experience, which usually lasts between 20 and 30 hours, but in some cases has been known to go on for 3 days. This should ideally be someone experienced in ibogaine administration, or otherwise a close friend. It is unlikely much communication will be attempted in this time and the client should therefore be attended in peace. Requests for water may be fulfilled but nothing else should be taken.

The Experience

The client will likely experience the drug taking effect after between 30 minutes and 2 hours. Withdrawal symptoms should be eliminated or easily manageable. There will likely be ataxia (problems getting upright) accompanied by a buzzing noise in the ears. Sounds will become louder, bright light hard to bear. Some people report feeling nauseous and there may be a sensation of pulsing in the body, rather as though it were being "cranked up to a new frequency." These sensations are quite normal.

Vomiting within 3 hours of taking the main dose may result in some of the ibogaine leaving the body before it can be absorbed. In such circumstances, giving more may be considered or perhaps the treatment aborted. Examining the vomit may reveal if the drug has left the body. Be aware of the dangers of both overdosing and using stepped doses if considering giving more ibogaine to make up for that lost in vomit, especially if this is the first time someone has used the drug.

The experience of taking ibogaine varies so much from person to person, it is difficult to prejudge just what will happen for any one individual. However, there are generally two, distinct phases to the experience.

First, the "oneirophrenic" or "dream-creating" phase. This generally lasts several hours and usually consists of the user experiencing dream-like visions with eyelids closed, which disappear once the eyes are open. The visions may appear to be actual memories running, rather as though a film of one's life was being shown inside the head, or may take the form of characters acting out roles, rather as though a play was taking place inside the head. However, many people report no visual sensations and this is not a problem. People may experience feelings and sensations associated with childhood and early life.

Secondly, the "processing" phase, which follows once the first stage is concluded. This phase is characterized by high levels of mental activity - interiorized processing that allows the material revealed in the first phase to be assimilated and interpreted. People frequently experience comprehending for the first time the reasons why they became involved with drugs. Though ibogaine affects different people in different ways, the oneirophrenic phase typically starts 1-2 hours after taking the main dose, and the processing phase about 3-6 hours later, usually lasting for between 8 and 14 hours. People sometimes experience very negative feelings on ibogaine. If this appears to be happening, the person attending could try to give them reassurance that things are OK. Whatever arises will pass.

What is described above is a typical session but it is by no means unknown for people to be up and moving around within a few hours of taking the main dose, apparently having experienced very little. Alternately, some remain in bed for half a week. In addition, opiate addicts frequently experience little or nothing of the "oneirophrenic" phase.

Sessions that are over quickly are usually less effective, and ibogaine does appear to have very little effect on some individuals, regardless of dose level.

Potential treatment providers please note: It is important to realize just how variable the drug's effects can be on different people. Tragic incidents can occur if safety procedures become lax after a string of successful treatments. Because, when ibogaine works, its effect can seem quite miraculous, it is very easy for people who are not medically experienced to start to relax pre-treatment screening procedures in their keenness to treat people and this is dangerous.¹⁰¹

Psychological - Psychologists attached to drug-dependency units have frequently noted that substance abusers very often show signs of having suffered considerable childhood trauma or conditioning. Research in this field has well summarized by Jane Wilson of the University of Stirling in her paper Childhood Trauma, Adult Psychopathology and Addiction.

Trauma is usually a single negative event, the memory of which and associated feelings are repressed. Conditioning is the process by which parents seek to alter their child's behaviour by repeatedly punishing certain acts, usually to try and ensure the child's successful integration into society.

One problem in treating the effects of both trauma and conditioning is that, because the original traumatic event or act of conditioning is repressed, the individual has no conscious memory of it having taken place and a person's defences may make any entry into this area difficult. Ibogaine treatment has frequently been reported to assist in the recall of repressed memories and further aid their processing, thus potentially giving the drug a major role in psychotherapy. However, whilst the cognitive retrieval of repressed material may take place, in the writer's experience most users do not experience a significant degree of emotional connection to the repressed event or events either at the time of ibogaine ingestion or later. It is therefore recommended that ibogaine not be administered in isolation, but rather as simply one stage of an wider therapeutic strategy.

In addition, it is recognized that, regardless of the degree to which the processing of repressed material has taken place, ibogaine does open up virtually all users to open and frank discussion of personal problems for a period of at least a week or so after use, an effect which may be put to good use in therapy.

¹⁰¹ <http://www.ibogaine.co.uk/ibogaine6.htm#six>

Psychologically, the drug is essentially "oneirogenic" in that it induces dream behaviour with the ego perspective relatively intact. Modern theories of dreaming often relate that dreams appear to be pseudo-sensory experiences that serve to diffuse the stresses resulting from unresolved emotional conflicts of the day before. In a similar way, it seems to be that ibogaine induces dreams that serve to try and reduces stresses whose origin is much earlier. Ibogaine visions frequently lend themselves well to the principles of dream analysis derived from Jung and others.¹⁰²

Optimizing The Ibogaine Treatment Setting

The question of the environment in which ibogaine should be administered is disputed among ibogaine treatment providers. Ibogaine treatment providers come from disciplines as diverse as varieties of shamanism, self-help, clinical research, and African religious practices. To maximize the possibility of success of the ibogaine experience in a hospital setting, certain matters should be addressed in the design of the protocol. It is advisable to include persons who have previously taken ibogaine for a substance-related disorder to work with the treatment team. Patients will relate to these team members and are generally reassured by their presence, knowing that these individuals may uniquely understand what the patient is experiencing during the procedure.

Keeping the treatment site free of distracting sensory stimuli, such as loud noises, discussions or arguments, strong or irritating odors, and bright lights, is strongly recommended during the therapy. Patients should not be compelled to open their eyes or respond to staff anymore than is absolutely necessary during the first 3 to 4 hours of the ibogaine experience, as this may interfere with mental processing and adversely affect the outcome of treatment.

The personal ibogaine experiences of the authors, and the reports of patients in various treatment venues, appear to support the value of the visualization and subsequent abreaction. Ibogaine aftereffects are an area of particular interest to clinicians, therapists, and counselors working with ibogaine-treated patients. The aftereffects appear to involve learning and understanding by ibogaine-treated subjects regarding issues of psychological importance, and the resolution of those issues may lead to attenuation of anxiety, depression, and drug self-administration. For the treatment provider, therapist, or counselor, it is important to understand that ibogaine-treated subjects may be more open and able to make use of various occupational, educational, or psychiatric forms of therapy. Professionals involved with ibogaine-treated patients should regard the process of visualization and subsequent abreaction as a window of opportunity. This could require more intensive work, but it could also be more rewarding work.¹⁰³

An ibogaine treatment protocol

¹⁰² <http://www.ibogaine.co.uk/ibogaine6.htm#six>

¹⁰³ <http://www.doraweiner.org/alexanderlotsof.html>

The following presentation was written by ibogaine researcher Geerte for the Lindesmith Centre. She is also co-authoring a comprehensive treatment manual with Dave Hunter, for publication in 2000.

LINDESMITH PRESENTATION, MARCH 2, 1998

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My name is Geerte and I represent INTASH, which stands for International Addict Self-Help. I would like to inform you about the contribution of the addict self-help movement in the development of Ibogaine treatments. I will be talking about the introduction of Ibogaine in the addict self-help scene in Holland. I will also discuss the present involvement of the addict self-help movement in treatments with Ibogaine, in which I will shed light on what actually happens during the intake, the treatment and the after-care procedure. I will then talk about the importance of addict self-help involvement in future developments with Ibogaine treatments.

Ibogaine was introduced to the addict community in Holland -which is where I'm from- in 1990, by Howard Lotsof and Bob Rand from the International Coalition for Addict Self Help. The late Nico Adriaans, Josien Harms and myself formed an informal organization that today is called INTASH, in order to treat addicts with Ibogaine. For those who don't know who Nico Adriaans was I would like to explain that he was one of the founders of the first addict self help movement in Europe, through whom eventually things like needle exchanges, decriminalized prostitution strolls and humanization of the addict within the institutions of Dutch society became a reality and an inspiration to many other initiatives throughout the world.

Witnessed four initial treatments with Ibogaine on poly-drug users of whom some had been in methadone maintenance programs for many years. The results of their treatments proved to be impressingly successful, which led to the foundation of our organization. What is perceived to be successful is of course a relative and somewhat subjective term. In our opinion we considered it a succesful outcome to see in all of our subjects an elimination of withdrawal symptoms ranging from approximately 85% to 100% and elimination of cravings from approximately 5 months to two years. And, as Nico Adriaans often pointed out, and I quote "there is no substance known in the world today, besides Ibogaine, that can eliminate withdrawal of high maintenance doses of methadone without causing extreme discomfort."

The goal of our self-help organization was to and still is to provide treatment with Ibogaine in a non-judgmental and trusting treatment environment. We provided treatments with Ibogaine over a period of several months for a group of 8 Dutch addicts, many of whom originated from the same town and social network. After being

thoroughly informed during a month long intake, all participants were treated in the same private setting.

We approached these treatments and do so to this day, with a “pro-choice” attitude, that is to say we were not anti-drug use, but we wanted to provide alternative treatment options to people that wanted to quit using drugs in an obsessive way. For example there was one particular case in which we treated a subject who came through the treatment without any withdrawal symptoms, but nevertheless expressed the need to use heroin. We asked him why, was he feeling withdrawal after all? He responded that he felt fine, but that the lifestyle of heroin use was still appealing to him. Since he requested to use heroin and he was at that point not in his home town, we actually helped him cop. Because we were and still are, foremost concerned with the welfare of the subject and wanted to make sure that he did not wander around town or get bad product and that he would only use a very conservative amount, since Ibogaine sets the subject back to a pre-addictive state which creates risk for accidental overdose, all of which we wanted to prevent.

All other subjects in the group stayed clean for an average period of six months. During this period we worked with Dr. Charles Kaplan, who is a highly experienced and accomplished international sociologist and drug researcher, and who suggested that we form a focus group that would meet on a weekly basis. His German colleague by the name of Eva Ketzer coordinated these meetings in order to collect data and to provide the subjects with an opportunity to share their experiences. All subjects received a physical examination by a medical doctor and nobody suffered any physical or mental consequences due to Ibogaine treatment. Because of practical difficulties and very limited financial resources the focus group dismantled after a couple of sessions.

The following two years we focused on processing the data of these treatments, which were published in 1994 in the peer reviewed Journal of Substance Abuse Treatment. We also informed therapeutic communities and several drug abuse institutions in Holland on the existence of Ibogaine and requested further research into this treatment procedure. We traveled the world to participate in all types of drug-related conferences to spread awareness around the existence of Ibogaine. Both from the professionals as from the international addict community we received a very skeptical, a kind of wait and see attitude and often uninterested reaction. It seemed that the professionals within the drug treatment community in Holland viewed Ibogaine as a politically difficult issue. Holland was already under a lot of pressure from the newly formed European Community to change their progressive drug policy. Taking on Ibogaine, an hallucinogen no less, was considered too much of a leap, and the attitude seemed to be one of “let some other country take the lead this time.” The international addict community at that time, with the exception of a Russian and a German group was more interested in establishing legalized methadone programs and needle exchanges in their individual countries. We were however able to interest a few key people in Holland to observe some treatments or review some data.

The next series of Ibogaine treatments in the Netherlands took place in 1992 in which the late Dr. Bastiaans, who was a medical doctor, was present to observe. Results were

monitored by Dr. Fromberg and Dr. Delano Gerlings from the NIAD, the Dutch Institute for Alcohol and Drugs.

INTASH then moved to The United States and integrated more issues around drug abuse on the way. Since 1996 we have a web site called The Junkie Domain (www.cures-not-wars.org/junkie) that covers anything from art and safer injection manuals to personal reports on Ibogaine experiences.

There are two different approaches to a session with Ibogaine. People who are not necessarily substance abusers can use Ibogaine to benefit from Ibogaine's spiritual impact in what is called an "initiatory" session and this takes place with a low dose of Ibogaine. The other method is the full dose for an addiction interruption session. The present situation of INTASH's involvement with Ibogaine is rooted in 1996, when we started working with an organization that mainly performed initiatory sessions with low doses of Ibogaine. This organization had also done a few addiction-interruption sessions with addicts. However they found that these sessions were not only more difficult in a medical sense, many addicts having physical and psychiatric conditions related to their substance abuse, but also in a psychological sense, whether it be the preparation, the actual treatment procedure or/and the providing of after-care. Since the INTASH members had this specific knowledge from years of experience we designed a protocol particularly for these addiction-interruption sessions, in which we modified the Lotsof procedure to provide sessions in a semi-clinical setting. First of all, we came to the conclusion that a thorough professional physical and psychological screening was needed. Second of all we had seen most people relapse at different time intervals after their treatments and wanted to provide some type of aftercare that was obviously needed.

My current role within INTASH besides being an addict self-help representative is one of Ibogaine counselor, advisor and ethnographer and I will try to shed some light on what takes place during the intake, the treatment and the after-care procedure. Treatments by the organization that I refer people to take place in several different countries and are done for cost price, which is around \$2200,- per treatment.

The intake procedure consists of establishing a preliminary process during which the addict requesting treatment is gradually prepared, while a relationship of trust develops. The addict is thoroughly informed of the physical and psychological consequences of a treatment with Ibogaine. Each person who seriously considers treatment with Ibogaine and who is well informed about Ibogaine goes through an initial screening which consists of a blood test, an EKG, a visit to a psychiatrist and an optional visit to a psychotherapist. The blood is screened by professionals for liver abnormalities, blood count and general health, the EKG checks the functioning of the heart and the visit to the psychiatrist is needed for a professional evaluation of one's past and present state of mental health. Basis of exclusion is problems with the liver, heart and/or lungs and psychiatric conditions beyond depression (mood-disorders) like psychosis, schizophrenia, etc. (personality-disorders). Once the subject has passed this screening, I do an unstructured life and drug history interview with the subject, which includes information about the treatment procedure in order to prepare the subject as thoroughly as possible. Ibogaine has been

proven not to be toxic and not to create dependency. It is hard to imagine and comprehend for many hard-core substance abusers, that Ibogaine will cause them to be clean from one day to the next without major pain and agony, especially for those who have been using daily high doses of Methadone in maintenance programs. Therefore the information given during intake encompasses many aspects and starts with a clear and firm warning of the danger of using drugs, in particular heroin, during and right after the treatment. This warning is repeated on the day of the treatment and is important because subjects undergoing the treatment need to be aware that Ibogaine potentiates opiates that are still in the system. More opiates during treatment can lead to overdose. The subject is then told what happens during a treatment.

The actual treatment takes place in three stages, through which the subject is guided by a team of Ibogaine-experienced ex-addicts, a medical doctor, a psychiatrist and a psychotherapist and several other medical personnel.

Early in the morning, ten hours after one's last use of food and drugs, the subject takes the Ibogaine orally in capsule form. Sometimes the Ibogaine is mixed with a digestive aid. This takes place in the morning, when the subject normally would have used their wake-up dose of drugs. An hour after administration the subject usually notices the fact that their familiar morning withdrawal symptoms have disappeared and will express a desire to lay down and get comfortable. A quiet, darkened room, especially prepared in a personalized, though non-distracting, manner is made available for this purpose. The room is darkened because light bothers most subjects on Ibogaine. The room is quiet because sound is usually experienced in an amplified and oscillating way. The subject generally experiences ataxia during movement, which is loss of muscular coordination similar to drunkenness. Since the ataxia is sometimes accompanied by vomiting, he or she is asked to lay still with the least amount of motion as possible. When closing the eyes, approximately 75% of subjects experience dream-like visions. I will get back to this visionary stage later in my talk. However, when subjects opens his/her eyes and are talked to, there seem to be no real visual or auditory distortions and some level of communication is possible but usually not preferred by the subject. Many subjects perspire heavily and are advised to wear comfortable shirts/pants that can be easily replaced. The first stage takes place for about four to eight hours, during which he or she is regularly checked by the treatment team and where members of this team are constantly available on request. During the first stage subjects generally do not complain about any withdrawal symptoms.

In the second stage, that can last approximately 30 to 40 hours, several things can happen. Some subjects still experience a dream-like period, although it is supposedly less intense. There is time to evaluate the visionary experiences, which can bring about profound insight into life and death and the reasons behind addictive behavior. Some subjects request something to drink and/or very light food like fruit. The subject usually stays awake most of the time. During this phase some subjects complain about exhaustion, which some of them interpret to be withdrawal symptoms. It is at this stage that the presence of Ibogaine-experienced ex-addicts is crucial. The previously established trust relationship between the subject and this guide, gives the guide the opportunity to assure

the subject that this is a common stage and that all that is needed is some sleep. They can relate on the basis of shared experiences, which has proven to be very effective and very important in order to prevent the subject from using any drugs that he or she might have saved. In many of these cases the subject is calmed down and sleep medication can be requested and is often advised by the team.

During the third stage most subjects fall asleep for a couple of hours, with or without the help of some sleep medication, after which they generally awake feeling rested, very hungry and in need to wash up. In the course of this day most people are able to resume normal activities. Many subjects need to spend more time in or around the treatment facility to process what has happened to them and to adjust. Some people request to talk about their experience, others prefer privacy. Some subjects experience up to about 15% of withdrawal symptoms after treatment, like some minor chills or a little yawning. An increased amount of energy and appetite and a decreased sleep requirement then continues over a three to four months period, diminishing slowly. Subjects usually stay free of cravings for several months.

Once the subject is informed of these practical aspects of a treatment with Ibogaine, I attempt to prepare him or her for the possibility of dream-like visions during the first and part of the second stage, even though approximately 25% of all subjects report not experiencing any visions. The visual and auditory experiences that possibly occur during Ibogaine treatment have demonstrated the ability to release repressed memories. The relevance of these visions in relation to the addiction interruption process is obvious when they seem to help the individual to develop an understanding of the underlying reasons for their addictive behavior. I usually ask the subjects what their expectations are around these possible Ibogaine visions. Since many addicts use drugs for their consciousness-suppressing qualities, some of them express fear of Ibogaine's mind-altering effects. It is then explained to them that people have reported not experiencing Ibogaine as a euphoriant and that the effects of the visions on the mind do not seem to include actual processing on an emotional level. That is to say, there is no element of release of emotions like laughing or crying as is seen in many hallucinogenics. Besides, the repressed memories that are being released are usually positive, since most addicts have been dwelling on the ones that are negative.

It has proved important to explain the similarities between an addiction interruption session and the use of Ibogaine in the African tribal tradition. As Howard Lotsof explained, some West-African tribes have used Ibogaine for centuries as a form of initiation that occurs once in a lifetime when a young person is to make their transformation into adulthood by reviewing their past and to "restore communication with the ancestors." People taking it for addiction-interruption purposes describe the visionary and auditory elements of the Ibogaine experience as a state of "dreaming wide awake." Visions can occur in a repetitive mode. They often report visualizing a rapid run-through of their lives and/or the lives of family members, even of those who have already past away. They have noted the ability of going both backward and forward in time and being able to come to an understanding of their spiritual roots. With spiritual I do not

mean religious, but I mean a heightened level of awareness. I like to call the experience a “journey into ones DNA.”

The possible amount and intensity of released material can be so overwhelming, that people have said that they simply could not remember everything they had seen, or that it took months to remember certain visions. Therefore, the processing of released material and the ability to verbalize these matters and learn to interpret their often symbolic content can take extended amounts of time and continue over years. Subjects have reported experiencing a mental or spiritual transformation due to the Ibogaine which they compare to ten years of therapy in 2 days, or taking a “truth-serum.” Whatever people report on their experiences, they have been observed returning from their Ibogaine experiences with a greater understanding of previously made choices. However, this does not mean that the Ibogaine experience offers them the skills to interpret and approach this material in a constructive manner that can lead to positive and productive solutions and changes in the life after treatment. We have learned from experience that for many people Ibogaine treatment on itself is not enough to maintain a substance abuse-free life. Most subjects require some type of after-care in which these and other matters are addressed. Psychotherapist Barbara Judd, who has been working with substance abusers for over 15 years and who has treated people before, during and after Ibogaine treatments for over 6 years has noticed that a person treated with Ibogaine is more ready and willing to undergo therapy sessions compared to the average recovering drug abuser. Many addicts who have used Ibogaine have seem to be able to access sensitive material that lays at the core of their addictive behavior without the usual feelings of trauma and fear and the need to anesthetize these feelings with drugs as a way of defense. Their newly acquired knowledge and attitude can save the therapist a lot of time in terms of confronting the individual with possibly painful issues. In case there are traumatic issues, they need to be worked through in order to break through the cycles of self-destructive behavior and find new, positive ways to approach life and it’s problems. Subjects are stimulated to seek out or create support networks, which could range from attending Narcotics Anonymous meetings to organizing Ibogaine focus groups of their own.

The after-care strategy is defined through collaboration with each subject during the intake phase and after the treatment. Individualized after-care plans are based on the life and drug history taken earlier in the interview and the subjects present situation. Any form of after-care is of course optional and it’s up to the subject to follow through in whatever way they feel is necessary. Motivation to design an after-care strategy and intentions to follow through on such plans are taken into account when reviewing the eligibility of each individual requesting treatment. Some people might need a therapeutic community, others a half-way house and yet others just manage on their own. What we try to do is make people aware before the treatment that taking Ibogaine involves a commitment to a new way of living, that Ibogaine is not just a “quick fix” and that staying clean is based on a profound change of attitude towards physical, mental and emotional well-being.

Crucial aspects of aftercare that need to be considered are for example housing, education, jobs and the psychological consequences of assimilation back in to

relationships, the family and the community. If unanswered, these matters could otherwise ultimately cause reasons for relapsing in old behavioral patterns. Based on the psychiatric evaluation some subjects need to be made aware of options like anti-depressants, non-addictive anti-anxiety medications, etc. Subjects are made aware of the availability of some fairly new anti-depressants that are currently on the market which are particularly suitable for recovering addicts. They seem to be extremely helpful in medicating possible chemical imbalances in the brain produced by the extensive use of hard drugs. Stabilizing de-regulated neurotransmitters is not only important in terms of treating depression, anxiety and other symptoms caused by extensive drug addictions, it is also crucial in terms of dealing with psycho-therapy in an effective way.

All subjects receive a list with important recovery issues, as they are also presented on the Junkie Home Page web site. These tips are relevant to any recovering substance user/abuser and also include things that deal with the physical well-being, like how to eat healthy, the need for exercise, how to deal with hypo-glucemia, info on vitamins, the benefit of sauna etc.

That covers the intake and after-care protocol that is currently in use through INTASH and the treatment procedure that is used by the organization that INTASH refers subjects to.

I would like to emphasize the need for Ibogaine-experienced ex-addicts in the process of treating substance abusers with Ibogaine. Even though we believe Ibogaine should be made available through the medical establishment, it is crucial to do so in cooperation with Ibogaine experienced addict representatives. The presence of these peer counselors is very important because there is a possibility of a trust relationship that reduces possible risks and that optimizes the chances of a successful outcome. The use of peer counselors is a convention that is widely used in the field of treatment and harm reduction as pointed out and applied by people like Dr. Vincent Dole and Nico Adriaans. Most substance abusers prefer to receive treatment in the presence of former addicts who are experienced with the treatment procedure, because they can relate to each other through similar experiences. In a world where addicts have constantly been submitted to rejection and secrecy, many have developed a low self-esteem. We therefore find it crucial to provide a treatment environment that is non-judgmental, in which the addict feels respected and free to express themselves and where the right to choose is always present. For example, most addicts will not change their behavioral patterns if they are being pushed into treatment by family, friends or the judicial system. Being prepared for treatment with Ibogaine means being ready and willing to take a physical and spiritual leap forward. It is therefore important that the treatment team includes Ibogaine experienced ex-addicts in order to provide loving and understanding support and guidance, in which mutual trust is the central issue. When the treatment is completed, a process of self-discovery and self-realization can start to develop, in which it is vital that the former addict can relate to others with a similar experience in order to prevent feelings of alienation to his/her environment. This has been done by creating focus groups where people can share this common ground, or by treating several members of one particular scene of drug users. The aim of the INTASH members is for Ibogaine to become available to any person

requesting treatment. Since the organization we work with can only treat relatively small groups of people, Ibogaine is currently not as effective as it could be if it were to be available in large amounts.

I would like to conclude by saying that in my opinion in the world today there is no substance as effective as Ibogaine in combatting addiction to opiate narcotics, cocaine, amphetamine, alcohol and nicotine as well as methadone.

However, I don't see Ibogaine as a cure on itself, but as a very effective part of a larger treatment scheme. It can therefore also play a role in the prevention of the spread of drug-related infectious diseases, like the HIV virus amongst IV users. And even if people do decide to return to drug use after treatment, they usually find that they need less drugs to get high, not just because they have more tolerance, but also because Ibogaine seems to diminish the need to use drugs. Ibogaine has proven itself to be the ultimate harm reduction and relapse prevention tool. A clinical argument can be made for Ibogaine over the Ultra Rapid Detox with Naltraxone because Ibogaine is safer and more effective in the long run. On top of that Ibogaine is much more cost effective and cost only a few dollars to manufacture. The unavailability of Ibogaine in light of an estimated 200 million addicts in the world today is totally inappropriate. Are different countries around the world playing the waiting game as to who is going to test and market Ibogaine first, as seems to be the case with Holland? Is the United States waiting for another country to take the lead? Are we going to let it? While we wait, let's consider the outcome in for example Russia or Eastern Europe when we realize that the rate of substance abusers and the rate of people contracting HIV is rapidly taking on epidemic proportions as has been reported by Dr. Grund who often travels to these regions. Let's not forget that substance abuse has just hit these people only a few years ago and that both clean needles and treatment centers are not available. You only have to guess the statistics in a few years from now, to know that the results are going to be very tragic. All too often I run into situations where Ibogaine is approached from a political perspective instead of one of medical necessity. It is not up to political standpoints if Ibogaine should be available or not. People with any political or/and financial clout and any social consciousness should concern themselves with the question of how to make Ibogaine widely available as soon as possible in the most effective way. It is not a matter of debate if Ibogaine should be available, it already is available.

My concern is with the currently existing international black market where Ibogaine is being bought and sold in the streets and where it is used without the proper medical screening and attention that is needed, which can lead to possibly hazardous situations. For example, there are reports of a French organization that actually takes addicts to West-Africa to chew on the root in the bush, or people in Europe who sell Ibogaine on the street. We don't want to see Ibogaine becoming just another illegal street drug with an anti-social stigma attached to it. Issues like the quality of product that is used, or the dose range, or undiagnosed physical or mental health conditions of the people who choose to take it in an irresponsible unprepared manner can lead to negative consequences. My main concern is the safety of the substance abusers. And possibly hazardous outcomes might lead to further delay in proper testing of Ibogaine by the appropriate authorities.

And even in the safest possible situation provided by for example the INTASH intake and counseling and the organization we refer people to for treatment, the element of risk remains. It is an element we do not wish to take, but are forced to take. And even though we provide Ibogaine for cost price, it's not as cheap as it could be if it were to be provided by the established medical institutions. As long as Ibogaine is not tested and made widely available in a responsible way to every addict requesting treatment, we will have to continue our current way of working in the best way we possibly can. Only through adequate testing through FDA medication testing procedures can the safety and dose range of Ibogaine be established, produced by pharmaceutical companies on a mass productive scale and then be implemented in clinical settings and the currently existing detox and treatment centers. Since NIDA stopped the funding for the Ibogaine FDA trial, we are now in need of other sources of funding. We do have the protocol to finish these testing procedures, but we need 3 million dollars to make it a reality.¹⁰⁴

Important recovery tips that can help you stay clean

Many drug users have problems with depression or/and anxiety, panic attacks etc. Particularly heroin is used to self-medicate these problems. When you finally decide that you want to quit using and you go through the process of detoxing, there is a good chance these symptoms may resurface. However, most detoxes, rehabs and support groups are based on the philosophy of NA. Here you are, you're finally clean, but you're often bummed out, anxious and you have a lot of trouble sleeping. Here are some very helpful, and most possibly life-saving options:

When you are addicted, particularly to opiates like heroin and you frequently go through the cycles of kicking and relapsing, kicking and relapsing etc., etc. you really screw up your chemical household in your brain. Supplies of endorphins, dopamine's, serotonin and other functions of neurotransmitters are totally de-regulated and out of whack. If you weren't depressed already when you first started doing dope/hard drugs, you have now caused this depression yourself by these very chemical imbalances. The word "depression" in the field of mental health is really meant to describe a series of symptoms besides just being bummed out. DSM-IV, the manual for mental disorders describes these other symptoms; problems with sleeping, fatigue, irritability, anxiety, feelings of guilt and worthlessness, lack of concentration, weight problems, thoughts of death and suicide, etc. Sounds familiar? In the last couple of years there are some new anti-depressants on the market that are particularly helpful for people in recovery and that don't have side effects like the older ones. These medications are designed to resolve the symptoms I just described. Don't worry, you don't have to take these meds forever, they actually help restore your natural chemical balance in your brain when taken over an extended period of time. There is a lot of media-hype around the anti-depressant herb called St. Johnsworth. However, that is definitely not strong enough for recovering addicts. Most anti-depressants take two weeks to be effective and you will have to find the dose that is right for you together with your mental health provider. How do you know the dose is right? When you wake up in the morning after a good night of sleep, your cravings for

¹⁰⁴ <http://www.ibogaine.co.uk/geerte.htm>

dope are out the window and you feel like kicking ass. There are specific anti-depressants especially effective for detox and recovery. They have very little side effects. You will find that using these medications can put you in a state of mind where PSYCHO-THERAPY can make a difference.¹⁰⁵

Other tips that are very helpful

Try working out minimally three times a week for at least an hour each time. Not only do you help your muscles and your central nervous system get back in to shape, it also releases those endorphins that you need so badly and that make you feel good in your body -hot baths also help release endorphins-. Do you have hypoglycaemia? That is a blood sugar problem caused by a poor diet over extended periods of time. Symptoms of hypoglycaemia are: the sudden urge to eat and having to respond immediately to that urge, dizziness, thinking you're going to faint if you don't get something to eat, when you do eat you feel an unpleasant "rush" in your head, gaining weight because of your constant eating etc.? There is a solution that makes that condition go away; working out minimally three times a week for at least an hour each time!

And how about eating right? Many people in recovery do not know, or have forgotten how to eat healthy. Eating healthy doesn't mean you have to spend a lot of money. Try to eat a lot of fruit and vegetables and cut out all fried foods. Stay away from fast foods, foods and drinks with chemicals like colouring and preservatives and do not drink sodas from a can but from glass/plastic. Are you constantly craving fatty foods? That's because you're body craves nutrients! That brings us to just about the last point; vitamins:

To be taking daily; Vitamin A, B-complex 50, C (500mgs minimum), D, E, Silica, Selenium, Zinc and Acidopholus. If you have ongoing diarrhoea, take products that provide not only Acidopholus and Bifidus, but also lots of fibre. When you're clean for over 18 months, consider a fast. Make sure you get a lot of rest, take naps if possible, to help your body restore, especially when you work out. Our last suggestion is going to the sauna once or twice a week. That helps you sweat out all the toxins that linger in your body. The heat also brings on a lot of endorphins. Slowly build up the time you spend in the hot room. Steam rooms are just the best.¹⁰⁶

Ibogaine Versus Other Treatment Modalities

Four issues relating to ibogaine versus other treatment modalities are suggested for further discussion. The first is the differing philosophies held by the drug users involved in ibogaine and those not so involved. The second issue is the differences between medical professionals and the ibogaine self-help groups. The third matter of discussion concerns the various reasons for resistance to the development of ibogaine, and the fourth issue involves what might be learned from other medication programs for chemical dependence, such as methadone.

¹⁰⁵ <http://www.ibeginagain.org/tips.shtml>

¹⁰⁶ <http://www.ibeginagain.org/tips.shtml>

Among drug users, one unexpected result of advocacy for ibogaine treatment was a dispute that arose during a conference in Europe attended by Dutch Addict Self-Help (DASH). Nico Adriaans and other DASH members were promoting ibogaine availability and were quite surprised when other user groups indicated strong opposition to ibogaine in that they felt the availability of ibogaine would interfere with the possibility of legal heroin. DASH indicated that the two were not mutually exclusive, but to no avail. This conflict among heroin users over ibogaine was completely unexpected and continues to the present time.

In addressing the opposing philosophies of drug users and medical professionals providing treatment, a struggle relating to control and empowerment is seen in ibogaine therapy between user activists and the medical establishment. This is a result of ibogaine being first established within the self-help group context, and not the conventional medical setting as is usual for most medications. Some self-help groups feel the empowerment allowed by ibogaine should be maintained by drug users and self-help groups and not be turned over to the medical community for administration and control.

Resistance to ibogaine development is understandable. New technologies are often viewed with skepticism, and ibogaine appears to represent a particularly radical paradigm shift. As previously reviewed, the pharmaceutical industry for reasons of liability, perceived lack of profit, a lack of emphasis in the development of medications to treat chemical dependence, and a desire not to be associated with the stigma of the drug user population chose not to involve itself in ibogaine development.

As to the research community, until the advent of ibogaine, pharmacotherapies to treat chemical dependence tended to be distinct for each form of dependence. Some medications were used to treat opiate dependence, others to treat alcohol dependence, and others to treat stimulant and sedative dependence. Thus, there was an understandable resistance to a single pharmacotherapy reported to have efficacy in multiple forms of substance-related disorders. There was also perceived resistance to the discovery being made by a person with no medical credentials, and promoted principally by drug users equally lacking in academic credentials. Years were spent in attempting to find interested pharmacologists who would perform ibogaine research. Once the first studies were accomplished, promising results accelerated research on the drug.

With regard to the future of ibogaine therapy, a look at methadone therapy may provide an understanding of what might go right and what might go wrong in the development of effective medications to treat chemical dependence. Methadone maintenance was the creation of Dr. Vincent Dole and the late Dr. Marie Nyswander. It consists of providing an opioid agonist in doses high enough to block the effects of heroin. Methadone is long acting, may be provided orally, and has been shown to promote a heroin-free lifestyle, social stability, and to reduce drug-related crime. So, what is wrong with methadone? The answer is nothing is wrong with methadone, but a good deal is wrong with many of the current providers who all too often fail to follow the Dole/Nyswander protocol. Adequate doses are often not given, and the humanitarianism shown patients has been replaced with indifference, animosity, a failure to acknowledge the patient as an individual, and the insistence of continuing to attach stigma to the patient in a punitive clinic environment. How this bodes for ibogaine therapy where even more skills may be needed, only the future can tell.

If a reduction in chemical dependence is to be accomplished, whether with ibogaine, its analogs, or other modalities, it will require that patients be better treated and better respected. It should not be anticipated that chemically dependent patients will readily remove themselves from that condition while they are marginalized, criminalized, and stigmatized. If the ultimate goal is to reintegrate these individuals into productive society, chemically dependent individuals must be provided with the same level of care and rights as patients who are being treated for other chronic, life-threatening conditions. In addiction medicine, as in other medical disciplines, it is of paramount importance that the physician listen to, respect, and not underestimate the patient. Ibogaine therapy offers a unique opportunity both for the physician and the patient.¹⁰⁷

Ibogaine and Methadone

Patient Status and Advocacy Issues

“A Retrospective:

Though methadone, an opioid agonist therapy and ibogaine, a substance having diverse complex mechanisms of actions appear quite different in their effects both medications have strong patient advocacy support. With the two medications being so distinct in their dose regimen and treatment profile it is interesting to note the advantages of early generation patients of each modality and the power they held compared to later generations of patients.

Within the methadone context this special status of early patients, many of whom became Research Assistants (RAs) was directly attributable to the two doctors responsible for the development of methadone maintenance, Drs. Vincent Dole and Marie Nyswander.

Ibogaine provides a somewhat different scenario wherein the medication's discovery as an antiaddictive agent came from the drug using counter culture. As ibogaine was lead into formal regulatory development by its discoverer, Howard S. Lotsof, he maintained a strong working relationship with patients and patient advocates who were immediately incorporated into early research through the International Coalition for Addict Self-help (ICASH) founded by Robert Sisko and Dutch Addict Self-help (DASH), established by N.F.P. Adriaans, G. Frenken and their associates.

As methadone moved further and further from its Dole/Nyswander beginning, providers became repressive and controlling towards their patients with strong antipatient and antiadvocacy positions taken within clinics to which methadone distribution was restricted. It should be noted that there are exceptions and that agencies within the federal government as well as, private groups and some methadone clinics themselves have recognized the detrimental effects associated with stigma and prejudice towards patients and are now beginning to attempt to reverse these conditions that are not conducive to recovery or the benefit of patients.

Ibogaine has not moved that far from its roots and we do not yet see the biased treatment of patients nor the ability to control them in a manner associated with methadone clinics. However, the patients themselves appear to have little direct access to ibogaine and to no longer participate in its administration to other patients in therapeutic self-help environments. While Lotsof believes that the ibogaine community can return to a situation closely identified with the patient/provider relationship similar to the golden age

¹⁰⁷ <http://www.doraweiner.org/alexanderlotsof.html>

of methadone, Dr. Dole, the father of methadone maintenance therapy believes that the return to such practices for methadone itself will not be possible.

This project of the Dora Weiner Foundation (DWF) is to document in reports and photographs the early generation of patients and advocates within both the ibogaine and methadone community for historical comparison in the hope that we may improve the lives of current patients through an understanding of the past. These reports and photographs will be presented at the American Association for the Treatment of Opioid Dependence (AATOD) Conference to be held in Washington, DC in April 2003.

The first of a series of documents being made available in furtherance of this project is Methadone and Ibogaine: A Historical Comparison of Patient Status and Advocacy Issues. The presentation is a PowerPoint slide show that will download when you click on the above link. The file is 2mb and will take from 1 to 10 minutes in transmission time depending on how you access the Internet.

A Manual of supporting documents to the presentation is available.

Please see our Donation Page for instructions.

Should you have any questions, please contact us.

Thank you for your support to this project.”¹⁰⁸

Ibogaine in psychotherapy: psychoanalysis according to Naranjo

Claudio Naranjo is a Chilean psychotherapeutic physician who, while in training at the Institute of Personality and Research, University of California at Berkeley, in 1969, published a remarkable report entitled "Psychotherapeutic Possibilities of New Fantasy-Enhancing Drugs" in Clinical Toxicology (Naranjo, C. 1969).⁴¹

Naranjo, in this report, deals with the therapeutic action, at so-called subtoxic doses, of two alkaloids, harmaline and ibogaine.

C. Naranjo wrote: "Because of the lack of a systematic study of these drugs (harmaline and ibogaine), from the simple standpoint of chemotherapy they were considered as toxic at a certain dose.

The fact is that the phenomena of harmaline and ibogaine intoxication are the points of greatest interest insofar as psychological exploration and psychotherapy are concerned.

Harmaline was isolated in 1841 by Goebel²² from the seeds of a plant of the family Malpighiaceae, *Peganum harmala*. It has also been extracted from another South American Malpighia, *Banisteriopsis caapi* or yage.

Yage bark is the principal ingredient of the beverage used by the Indians of the region of the headwaters of the Amazon in connection with certain divination rites and practices and it is known, according to research done at the University of Chile, that this drug was central to the culture of different Indian tribes as far back as the paleolithic period.

¹⁰⁸ <http://www.doraweiner.org/aatod.html>

The effects of harmaline and of ibogaine are practically unique among the psychoactive drugs.

The best term to describe these effects is the one used by William Turner, a yage specialist, oneirophrenia, to refer to the states induced by drugs that differ from psychotomimetic states by the absence of any psychotic symptom while sharing with the psychotic or psychotomimetic experience the preeminence of a primary thought process.

Harmaline and ibogaine are characterized in their psychological effects by a state such that it involves a dream phenomenon without loss of consciousness or change in the perception of the environment or any illusions or formal deterioration of thought and without depersonalization.

In a word, we can say that there is an enhancement of fantasies which is remarkable in that it does not interfere with the ego. Such fantasies are more like actual visions than common everyday dreams.

In a study on the psychological effects of harmaline performed in Chile in 1963-64 together with other Chilean physicians and with Indian traditional therapists, Naranjo pointed out that one of the most remarkable aspects of the fantasy is its great consistency.

The themes or images that are evoked are mostly archetypes, according to Jung's definition of the term, namely ancient memories, generally common to all humans, buried in their collective unconscious.

To cite Voltaire: "The world, according to Plato, was composed of archetypal ideas that always remained deep in the brain."

Naranjo distinguishes between two sorts of archetypes:

The mythical style similar to the dream of a lost treasure, a kind old man, an ideal woman, a saint, an ideal community and various so-called noble thoughts, and so on.

The instinctive style such as it may be expressed in a fantasy with aggression, sex, bloody scenes of all sorts, incest or other practices.

By their spontaneity, these waking dream sequences are more extreme than any other reported by patients from their usual dreams and do not resemble the visions on mescaline or LSD. In fact, the effects of the two types of drugs seem to be poles apart, those of the common hallucinogens being a high and angelic domain of esthetic sensations, of a lack of union with anything else, while the domain of the oneirophrenics is that of Freud's subterranean world of animal impulse and regression.

Naranjo gives some examples of subjects treated successfully with harmaline at doses of 4-5 mg/kg orally (about 300 mg).

Concerning ibogaine, Naranjo says that he knows less than about harmaline as regards the use of iboga by the Gabonese and Congolese. He is unacquainted with the Bwiti and apparently does not know the structure of ibogaine.

He knows that the drug has been used in the European pharmacopeia for its antifatigue properties at a low dose, which, according to him, is due to the fact that it is a MAOI.

As with harmaline, Naranjo uses ibogaine at doses of 4-5 mg/kg orally and one-quarter of it intravenously, and describes subjective reactions lasting about 6 hours.

Compared with the effects of harmaline, those of ibogaine appear less exotic. Even though the archetypal contents are common to both (visions of animals being frequent), the quality of the fantasy is generally more personal and concerns the subject himself, his parents and significant others.

At the same time, the fantasy evoked by ibogaine is easier for the subjects to manipulate, either on their own initiative or through the psychotherapist, so that, more often than with other drugs, they can stop to contemplate a scene, go back, explore an alternative in a given sequence, bring a previous scene back to life, etc.

This ease with which the events in a treatment with ibogaine can be manipulated and the fact that the experience can be directed to the desired area is probably one of the reasons for the success observed by many psychotherapists who have used this drug.

Naranjo was much more impressed by the effects obtained in an ibogaine session than with those observed with any other drug.

An example really shows the ease with which the psychotherapist is able to direct his analysis:

This is a young patient who, when treated with ibogaine, decides to lie down and close his eyes shortly after feeling the effects of the drug:

"First, he sees the face of his father, facing him as though they were playing a game, with a restrained smile. His comment at this point is that his father looks like a little boy to him. It was like someone unfamiliar and yet familiar, like something the patient had forgotten for many years.

Suddenly his father's features change, distorted by rage. The scene changes and the patient sees a naked woman hiding her face with her arm, afraid.

Close by, he sees his father, also naked, throwing himself on the woman in a sexual attack. He feels a controlled rage in the woman whom he now identifies as his mother."

At that moment, Naranjo asks the subject to have his father and mother engage in conversation, intending in this way to distance the latent content of these images. "What

is she saying?" "Go away"; "what does he feel?" He cannot imagine. "I am perplexed", he suggests.

Naranjo then chooses another tack to make the subject's feelings more conscious and explicit.

"Now, you be your father. Become your father, to the best of your dramatic abilities, and listen to what he is telling you."

Then, personifying his father, the patient falls, not into perplexity, but into a great sadness, suffering and rejecting his anguish.

Shortly after this episode, a drastic change occurred in the way the subject viewed his parents and, consequently, in his feelings toward them.

The next day, he commented that only now did he know how much he identified with his mother, looking at things through her eyes, blaming his father, and more than that, a man, which had interfered with his own masculine aspirations.

In contrast to his usual idealization of his mother in a total love and his perception of his father as a selfish brute, he then had the feeling of knowing them as they are.

He wrote: "I have seen my mother as a hard person, without affection or fear, and I no longer look upon my father as an insensitive being who had hurt her in his love affairs, but as someone who wishes to open the door of his love, without succeeding. Now, I am full of compassion for my mother."

Compared to the dramatic quality of psychedelic experiences, this episode may appear insignificant or trivial, and yet it was the key to a radical change in the attitudes of the young patient.

That might be said of the experiences with ibogaine in general, when we compare its effects with those of LSD.

Here, the type of contact concerned by the unconscious material is symbolic (rather than assuming the form of a free-floating emotion, as with LSD), and may henceforth be assimilated in the form of lasting signs.

Such signs generally occur when a fantasy or a hypothesis that had been unconscious becomes conscious with such clarity that the ego of a mature person is compelled to become aware of his or her deep-rooted former error.

Naranjo concludes as follows:

"I do not want to give the impression that I regard ibogaine as a psychiatric panacea that will bring changes by itself. I believe that many drugs may be used for psychological exploration, but that these drugs can only be an instrument.

I doubt that there is anything that can be achieved with a drug that cannot be done without it.

However, drugs can be psychological catalysts that make it possible to compress a very lengthy psychotherapeutic process into a shorter time and change its prognosis.

Although ibogaine cannot open a door by itself, it can be considered as the oil for its hinges".

At the time of the publication of his report on drugs that enhance fantasies, in June 1969, C. Naranjo, together with a Frenchman, D.P.M. Bocher, obtained a special drug patent in France pursuant to an application submitted on January 31, 1968 and issued on July 31, 1969, for:

"A new medication acting on the central nervous system that can be used in psychotherapeutic treatments and as an antidrug preparation".(Bocher, D.P. & Naranjo, C. 1969).⁵

The drug was composed of total alkaloids of Tabernanthe iboga roots combined with an amphetamine in a proportion varying according to the behavior of the patient.

Among the 50 cases studied in psychiatry, Naranjo described four in support of his application for a "nontoxic drug that clarifies thoughts and permits a very thorough introspection while preserving the patient's emotional character which is indispensable for the stimulation of thought and imagination."

However, in this same period, following the resolutions of the World Health Assembly of May 1967 and May 1968, the American federal government classified ibogaine, through the F.D.A., among the substances analogous to lysergides and to certain CNS stimulants.

"Whereas, in the interest of public health, certain regulatory provisions should be applied relating to the manufacture, transportation, possession, sale and distribution, delivery and acquisition for valuable consideration or free of charge of soporific and narcotic substances, and of certain substances likely to produce drug dependency or endanger human health".

These regulations are applicable to the following substances, to their isomers, unless expressly exempted, to their salts, ethers and esters, as well as to the salts of said ethers and esters in all cases where such salts may exist.

The list of these substances includes: amphetamines, ibogaine, compounds and derivatives of lysergic acid, amides of lysergic acids and other derivatives, peyotl and

mescaline [harmaline is not mentioned], hallucinogenic mushrooms, psilocybin and derivatives of dimethyltryptamine, 4-OH-DMT and 5-OH-DMT.

We shall return later to this decree which was applicable beginning in 1970 in several European countries, France and Belgium in particular.

The fact is that in France and in Belgium, nothing more was heard about ibogaine and the sale of Lambarène was prohibited.¹⁰⁹

After Effects

POST IBOGAINE

If the treatment has been successful, the client should be clean having experienced little or no withdrawal. In addition, many experience no desire to use drugs for a period of weeks afterward. Furthermore, some users report gaining insights into their drug-using behaviour. As a general rule, ibogaine is most effective for older addicts, a casual study indicating that those over 35 have a far better chance of staying clean than those in their twenties.

In cases where the treatment has been successful, but the client begins to experience the desire to use drugs again after some weeks, repeat dosing with ibogaine can be undertaken. Remember that persons not currently using opiates require ibogaine at a maximum dose of around 10mg/k. Re-dosing with ibogaine at less than one month intervals may be risky, as metabolites of the drug can remain in the body for this length of time.

Melatonin and B vitamins have been suggested as useful after using ibogaine. Some believe they help sustain the drug's effect.¹¹⁰

Post Ibogaine Rehab and Therapy

A single dose or multiple doses, given over a period, of ibogaine will occasionally be enough to keep someone off drugs permanently. But for most the truth is that, unless suitable post-ibogaine work is undertaken, a fairly rapid relapse to old ways is likely.

It is simply not possible to give guidelines that will be valid for everyone, for we are all different. However, for many, the addict should ideally enter rehabilitation as soon as possible after the treatment. In the writer's opinion, the best rehab program, and likely the one most suitable for those who have just taken ibogaine, is the Residential Addiction

¹⁰⁹ <http://ibogaine.desk.nl/bwiti1.html#naranjo>

¹¹⁰ <http://www.ibogaine.co.uk/ibogaine6.htm#six>

Foundation (RAF) program run by the Humaniversity in Egmont-aan-Zee, Holland, see www.humaniversity.nl for further details.

Other alternatives include any long-term (six months and up) residential rehab program available locally. Where residential rehab is not desirable, or not an option, suitable therapy should be seriously considered. Observations of the ethnic, religious use of the drug and first and second hand experience indicate to the writer that the most suitable types of therapy will be body-based and work around catharsis, confrontation and emotional release. "Talking only" type therapy, such as counselling may be effective in some cases but usually less so. Encounter therapy is often highly suitable for recovering addicts, as is primal therapy, bioenergetics, and indeed anything that sets out to assist the individual contact and release repressed emotions, frequently the root cause of addiction. More gentle, integrative work may also be useful. Dance structures such as 5 Rhythms or Biodanza may be helpful, either as a back-up to deeper work or on their own.

Attention should also be given to pleasure. Long term drug use will have likely had the effect of causing the addict's dopamine system to have been "hard-wired" to associate pleasure with drug use. This is the reason why many who have beaten addiction in the short term frequently relapse. A brief period of exposure to drug-using stimuli, especially at a time when a former addict feels vulnerable, often results in a return to addiction. Everyone needs pleasure and so the recovering addict must take steps to ensure they can get enjoyment out of life without using drugs. For the majority this will mean work on their sex lives. Sexual stimulation, and particularly orgasm, is the principle means by which the healthy body gains pleasure and releases tension. Work to increase the former user's ability to be intimate, both socially and sexually, is very important. Tantra workshops, touch therapy, or other intimacy-focussed processes are an excellent idea.¹¹¹

Seven month post-ibogaine-session timeline.

0-2 days (session):

First hours very physical and perceptual. Overtly psychedelic. Next 6-8 hours psychologically difficult though impersonal. Struggle with fear of death itself rather than specific emotional issues or the past. No memory resurgence. Many global/apocalyptic visuals and mental narratives. Dismemberment and annihilation narratives. Last 15 hours endless reflective drifting with localized hologram-like visual hallucinations. Trip approximately 34 hours then sleep.

2-3 days:

Intense physical lightness. Strange global-consciousness sensation. Peripheral visual ripples and other residual psychedelic phenomena. The world appears vast, complex and lit strangely with a harsh golden rather tropical light.

¹¹¹ <http://www.ibogaine.co.uk/ibogaine6.htm#six>

A cosmogonic feeling.

1 week:

Physical lightness continues. Reduced need for sleep. 0 drinks per day, alcohol tastes terrible. Prior to the session I was at 4-6 drinks a daily, for several years. Less eating in general. A strange bubbling laugh at times with no prompting. Laughter runs through whole body, as if some blockage has been removed. A feeling of joy in being. Music intensely pleasurable.

2 weeks:

Self-administered mushroom trip. Apparent sudden breakthrough immediately after experience, very intense and unlike anything before. Seems at the time like a major breakthrough. Intense sense of "awareness" and compassion towards others in the following hours and days. Cosmic overtones everywhere. "The awareness" seems to persist past the usual 2-5 day window for psychedelic afterglow.

1 - 2 months:

Awareness never completely dissipates but varies in intensity.

Intense, intricate dreams often of strange impersonal subject matter: many epic aerial vistas of strange composites of earthly civilizations from various times/places in history. Highly resolved human characters and even non-human creatures encountered. Unprecedented visual clarity.

"Conscious sleep" experiences. Feel aware that I am sleeping. See the "space between dreams" like a blank computer monitor. Ibogaish "effervescence" wears down to an steady sense of peace. Physical lightness continues.

Fears and situational triggers operate as before resulting in hostility, anger, inferiority, pettiness, guilt. However, negative (and positive) states dissipate quickly leaving much less residue. Alcohol rises to 1-3 drinks daily. Irritable bowel syndrome symptoms (gas, bloating, abdominal pain, constipation, diarrhea) less frequent.

Cry or laugh intensely on occasion out of a sense of sudden release.

3 1/2 months:

Stomach flu causes severe vomiting and diarrhea for hours. Dehydration and weakness. Lie in bed for days. In retrospect this seems like a purging process. After recovering, reexperience the state just after the ibogaine session, physically light, laughing and crying, intense experiences while listening to music. Alcohol back down to 0 - 1 drinks daily. Eating only fruit and juices then slowly vegetables for several days.

4 months:

Notice awareness rising again.

Second mushroom session since ibogaine session. Medium-low dose. Almost no response. Slight visual waviness, and some smiling. No emotional surges, no terror, no insight, no afterglow, virtually no intestinal discomfort. All over in less than 2 hours. Unprecedented unresponsiveness to psilocybin.

Begin to notice gradual unintentional diet shifts. Less red meat. More fresh fruit.

Awareness continues to rise. Becomes almost continuous. Often the world appears radiant and crystal clear. Feel as if I see the "raw feed" of reality. Too strong to be my imagination. Often sense emotional shifts immediately as they happen rather than later when mired in them. Alcohol consumption rises to 1-2 drinks daily.

5 - 6 months:

Awareness becomes practically continuous and at times startlingly intense. At its keenest it feels as if I am not just in my body but part of a manifestation of the reality extending all around me. Similar to a psychedelic state but doesn't feel drug induced, as if the brain has "learned" to be in the psilocybin-activated state without the "drug" effects.

Generally healthy feeling. Almost no red meat, not appetizing. As if something is guiding my diet. Chicken, fish, fruit and fruit juice, vegetables. Coffee consumption at 1 cup daily. Alcohol consumption remains at 1-2 drinks daily.

Irritable bowel syndrome symptoms still occurring but at all-time low since they began 12 years ago. Abdomen at times miraculously normal - I can sometimes hold my lower belly with my hands and feel no discomfort at all - it feels dense, unbloated, "normal".

6 months:

Some tapering down of the clarity of recent weeks.

Re-read portions of Tolle for the first time in months. Interesting and different now. Have been doing "the work" all along since July, focusing as much as possible on my present state, thoughts, emotions all day everyday. Feel as if it became easier about a month ago. I may have glimpsed directly at least some of what he is talking about. Seem to suddenly "step out of time" for a moment, as if becoming aware that I'm in a stage drama. The world looks brighter, as if lit by a "second light". Less emotions in general. Feel as if something has been slowly but steadily working behind the scenes for months. Occasionally find myself meditating by just sitting and doing nothing and staying keenly focused on surroundings.

7 months:

Awareness recedes to a low but persistent level. Some days brilliantly fascinating.

IBS symptoms, anxiety and depressive sensations return intensely for a week or so in early part of seventh month then recede. Very disappointing during but try to accept or "be with it". Then ok again.

Abdomen still "normal". Almost no excess gas, even in the morning and after meals. Like being a human being again. IBS limited mostly to brief pain in lower abdomen which dissipates within 15 minutes. Able to eat certain "off limits" foods for the first time in many years with no reaction, particularly dairy, broccoli and raw vegetables. Remarkable.

Red meat intake again. Alcohol consumption remains at 1-2 drinks daily. Sometimes never finish second drink.

Anger, irritability and general emotional reactivity still low. Pleasant "even keel" feeling. Find myself more at ease socially, less worried about "coming off" any particular way. Less dismayed by unexpected situations, smile at people more easily.

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Taken as a whole, results of ibogaine/psilocybin treatment and "spiritual work" have been quietly spectacular. Some skepticism towards future since downturns/relapses are very real and alarming. But it seems to help to hold steady with difficulty "being present" with anger, fear, physical symptoms etc.¹¹²

POST IBOGAINE PROBLEMS

Feelings of deep contentment - although less common with long term heroin users, many people using ibogaine feel in very high spirits for a period of days or sometimes weeks after taking ibogaine. Clients report feeling that their life is now totally straightened out, they don't need to do rehab, and everything is going to be just wonderful. Unfortunately, this feeling usually passes after a week or so. It is important to remember this as some people feel so good for a week or so after using ibogaine, they barely notice when they start to get the urge to use drugs again and so quickly relapse.

Learned behaviour or conditioning - ibogaine is widely noted as having the ability to "reset" a person's learned behaviour patterns, leaving them free from compulsive urges, drug-related or otherwise. Again, this usually only lasts for a period of days or weeks, and so attention should be paid to any drug-using stimuli in one's environment after this time.

Feelings of anxiety or paranoia - for some users the experience can prove quite harrowing. The drug can have the effect of radically altering the way a person looks at themselves and the world around them. Deep-rooted feelings of insecurity that may have been present since childhood can be uprooted and, when this happens, it can leave a person feeling disorientated and anxious for some time afterward. This will clear and is actually an indication that the drug has worked well.

Sleeplessness - many people find they require less sleep for a period of time post-ibogaine. This is quite normal.¹¹³

¹¹² <http://www.ibeginagain.org/experiences/will.shtml>

¹¹³ <http://www.ibogaine.co.uk/ibogaine6.htm#six>

RETURNING TO DRUG USE

If a return to drug use is anticipated post-ibogaine, it is imperative the client does not restart at the dosage level they were using prior to treatment. Ibogaine "resets" many brain functions relating to drug usage and to return to heavy usage could easily result in overdosing, and possibly death.¹¹⁴

Psychological Aftereffects

The effects of ibogaine in human subjects have been described. In brief, ibogaine provides three different phases of effects in most, but not all, patients. In the first phase, the greatest intensity of which lasts approximately 3 hours, the patient appears to experience dreaming with eyes closed while awake. The form of the material experienced during this ibogaine visualization period is as varied as the scope and breadth of material seen in ordinary dreaming, in that it may be realistic or symbolic, in black and white or color, and diverse in subject matter. The visualization will be interrupted if patients open their eyes. It should also be noted that this dreamlike phase tends to end abruptly.

A second phase consisting of cognitive evaluation lasts between 8 and 20 hours. The material reviewed and reported by patients during the cognitive evaluation phase may consist of material from the dreamlike experience, or of other memories, and often concerns traumatic or emotional experiences, personal relationships, and important decisions that the patient has made. The second phase transitions slowly into a third phase of residual stimulation. The third stage may last as long as 36 hours or longer in some patients. The first three phases will run their course in most patients within 48 hours. It is not uncommon for a subset of patients to recover within 24 hours.

Psychological aftereffects of ibogaine may include what appears to be a process of abreaction. Patients report an understanding of their condition associated with traumatic events and resolution of issues in a process somewhat similar to that of psychoanalysis. Whether improvement in anxiety and depression in patients treated with ibogaine is a result of this phenomena, or more readily explainable on the basis of effects on neurotransmitter systems, has yet to be determined.

In the authors' experience, ibogaine-related psychological aftereffects have been apparent either immediately or after an interval of weeks or months. Clinical examples of aftereffects seen either acutely, or after a period of months, are provided below

Post Ibogaine Treatment Therapy

The principal effects of ibogaine treatment that are reviewed in Lotsof's Clinical Perspectives ([document #14](#)), Frenken's An Ibogaine Treatment Protocol ([document #15](#)) and Sandberg's Introduction to Ibogaine ([document #16](#)) will usually run their course

¹¹⁴ <http://www.ibogaine.co.uk/ibogaine6.htm#six>

within two days. There are exceptions with some patients recovering in as little as 24 hours while others may require an additional day or even have to be coaxed out of bed four days after treatment. Thereafter, the patients are left with the rest of their lives to accomplish and with the majority of individuals needing some form of assistance to figure out how to go about moving forward. Some patients will have a fear of going into withdrawal. This is not a realistic expectation on their part. More realistic is the fear of relapse to drug use and except in rare instances this should be anticipated particularly after only the first treatment with ibogaine.

Addiction has been viewed as a chronic relapsing condition. Ibogaine's value is not only the interruption of withdrawal but, by mechanisms not fully understood to assist the patient in changing learned behavior and becoming more aware of their behavior in order to change it. After ibogaine therapy many patients become more agreeable to change. Thus, ibogaine provides a unique opportunity. The question to the ibogaine treatment community is how to best make use of that opportunity?

A fundamental question remains. Is any form of adjunct therapy to the administration of ibogaine more advantageous than any other form of post ibogaine treatment therapy? The question becomes more diverse where in the absence, in many cases of the possibility of additional treatment with ibogaine, opiate dependent patients who have relapsed have made good use of methadone maintenance as an effective intermittent therapy so that methadone must also be included in the mix of therapies that have been effectively used by ibogaine treated patients to eventually free themselves from addiction. Thus, we see patients making use of psychoanalysis, psychotherapy both individual and group of varieties as distinct as the persons who provide such therapies, methadone maintenance, and associations such as Narcotics Anonymous and Alcoholics Anonymous. What does appear evident is that contact with non-addicted persons is generally beneficial for patients and that continued contact with users of drugs that cause dependence is detrimental to a goal of abstinence if that is the endpoint desired. This is not distinct from the findings observed in non-ibogaine environments.

Many ibogaine patients themselves indicate that they have a need for and want some form of therapy or support. The issues become more complex in patients whose long term addiction has left them without the skills or education to function outside of a drug user context. Providing ibogaine is a relatively easy short term goal. The time needed to heal patients of trauma they have experienced and to address deficits in the patient's life is more time consuming and a more long term goal. In many cases the patient's lack of financial ability to obtain assistance for therapy, education or occupational training will require societal assets or private donations to be made available.

Only recently have agencies such as the Center for Substance Abuse Treatment and the National Institute on Drug Abuse in the United States recognized that the prejudice shown towards drug users is harmful in itself and detrimental to patients seeking treatment. A growing number of individuals question whether prohibition is the greatest harm of all while a greater number of persons are calling for a harm reduction philosophy

wherein the minimalization of the level of harm to drug users and society is viewed as a priority over any immediate requirement of abstinence.¹¹⁵

Further Remarks on Post Iboga Treatment

The question of what comes next, what happens after the ibogaine is perhaps the second most important issue in the ibogaine story. All treatment providers will stress the importance of post treatment therapy and yet how to actually achieve the follow up care is a question that certainly still looms large in my mind. Most people that came to me for ibogaine had been through all the government funded drug addiction therapy and had left complete with their habit and disillusioned by the entire concept of therapy. I would propose that this is why they chose ibogaine. Ibogaine lets you do the work on your own. No-one is telling you to do anything, the sitter is just a facilitator and a friendly ear and shoulder to lean on for a short period of time. No commitment required here other than a five day stint. This is not to denigrate the commitment that they make in consuming ibogaine. However they don't have to commit to a follow up program, there are no requirements. This appeals to a certain type of person whom I would suggest is thoroughly disillusioned with therapy! A number of people said to me that they benefited more from the ibogaine than they had from 7/8 years in therapy. Whilst discussing after care options there were often none that appealed to my clients. Yet it is essential. From the results I have seen, the people that are still clean over a year later are the people that signed up for therapy post ibogaine.

Certainly in the UK there are very few options that appeal to people I have talked to or worked with. I would suggest that NA groups offer a great support structure and have been extremely helpful to one man I treated who is currently clean 14 months later. However many people have an extremely negative reaction to NA and many have said that they are places where you meet more people with more problems and often you start a relationship in an NA group which becomes co-dependent. Then one person falls back to using and "drags the other with them". There are many stories of negative encounters in the groups. Government funded treatment or therapy is usually group based and nearly everyone I have spoken to has criticised these programs saying that the people running the programs are often extremely young, have no experience of drug addiction themselves and that often you are just not listened to in the group. People have said that they have finally released extremely painful and personal material in the group only to be ignored. This leads to re-traumatizing the individual.

Private therapy is somewhat hit and miss. There are brilliant practitioners out there but not many with any ibogaine experience (if any). Of these therapies I would agree with Nick Sandberg that bodywork is extremely important. Addiction, certainly in my case was about disconnecting from the physical reality and severing the connection with my physical body/existence. Escaping in an anaesthetic world of illusions. The thing that has most helped me has been bodywork, in the form of acupuncture particularly auricular therapy, which is less invasive. This helped a lot when I gave up cocaine. Breathwork has been the most important thing for me for reconnecting with the traumas lodged in my

¹¹⁵ <http://www.ibogaine.desk.nl/manual.html>

body that had been ignored and buried by cocaine alcohol or anorexia. The anorexia was an attempt to cut myself off from my body as it stops/stunts physical development. Anorexia also becomes sexual anorexia, as does heroin for many people. So sexual therapy is often required. This can be extremely difficult for people to confront and talk about and so breathwork is an easy way of letting the body/breath throw up the traumas, bring them to the surface and in an open somewhat altered state of mind this can be a good space in which to address them. It is worth noting that about 70% of people I worked with were the victims of sexual abuse.

So for people that are disillusioned by therapists and group counsellors various forms of bodywork can be extremely effective - acupuncture, rolfing, breathwork (rebirthing or Grofs), dance and movement therapy. Anything that reconnects you with the trauma lodged deep in your body. If you have been addicted for years the ibogaine may bring the reasons for the distress to the surface but that won't necessarily release them - especially if they are lodged deep - which is why the previously mentioned practices help.

I would also suggest that a support group is extremely beneficial. Unfortunately no matter how much I tried I couldn't get the people that I had seen to form an ibogaine support group and I think this would really help. I have seen it help on the ibogaine list. People able to talk to each other about their experiences on line. Perhaps this is the only way to do it but it would be good for example to have a group in the UK that met once a month to talk about things. I was criticised by a friend of someone that died six months after doing an ibogaine treatment with me. The man had been clean for six months and got to his 30th birthday and OD'd on heroin. He had apparently always said that he didn't want to live past this age. However his friend said that the guy had been finding life difficult post treatment as he had no-one to talk to about what had been for him a momentous and spiritual/life changing experience. As a result he couldn't relate to his world anymore. I had maintained contact with him but he hadn't told me about this. At the time I was treating other people and couldn't monitor this guy closely. He then died. Whether or not he killed himself I will never know but it made me think about the importance of follow up. This experience can dramatically change peoples lives and without adequate support this can be extremely difficult for people. This is definitely something I would like to address and see other treatment providers address more as well. I would suggest that a support group following treatment would be beneficial if not essential as well as a course of at least twenty sessions of some form of bodywork or counselling (or both ideally). A 24-hour ibogaine helpline would also be a good idea.

To conclude, no three day recovery program in itself can correct years of substance abuse. It is therefore essential to arrange follow up care. The ibogaine experience itself leaves you open and enthusiastic about creating changes in your life. Post treatment bodywork/counselling is essential, as it will help maintain this positive transformation and facilitate a deeper understanding and release of years of abuse.¹¹⁶

¹¹⁶ <http://www.ibogaine.org/wells.html>

Immediate Psychological Effects Following Ibogaine Treatment

An example of the acute effects of a single treatment with ibogaine is that of a 39-year-old female patient dependent on 80 mgs per day of oral methadone that she supplemented with between \$120 and \$250 worth of heroin by IV administration. She had a 20-year history of heroin use.

The patient was HIV-positive and had an adolescent daughter. The patient's reason for seeking treatment was so that she might provide her daughter with quality time before her own anticipated death. Her treatment proceeded unremarkably, and she experienced little discomfort. On the third day after the treatment, being significantly recovered from the physical effects of ibogaine, she met with the psychiatrist who had supervised her treatment. The patient disclosed that she was suffering emotionally from the loss of her husband, who had died of a heroin overdose while she was in prison on a charge of heroin smuggling. The patient stated she had repressed emotions relating to the loss of her husband while in prison, she complained that the feelings of loss were now painfully intense, and she cried. She was angry that she had to feel these emotions. Her psychiatrist suggested that she wait another day and visit him again to see how she felt. On the following day she appeared to have achieved a significant degree of resolution of the grieving relating to the loss of her husband, and she attributed this to her treatment. She had no desire to use opiates and showed no signs of opiate withdrawal.

B. Delayed Psychological Effects Following Ibogaine Treatment

The patient was a 26-year-old female dependent on heroin for 3 months. Her husband had been using heroin for approximately 10 years. The treatment of the husband and wife overlapped in time. The man was treated on day 1. The woman was very cooperative and assisted in every way with her husband's treatment. The woman was treated the following day. Her husband refused to leave her alone in the treatment room. He informed the treatment team, including four medical doctors observing the treatment, as well as the attending psychiatrist, that if they attempted to keep him out of his wife's room and bed he would disrupt her treatment. The husband further told the treatment staff not to come into the room to care for his wife and only authorized entry to address a lengthy list of somatic complaints concerning his own condition. Eventually, he left the treatment site to go for an extended bike ride. During his absence, his wife cried in the arms of one of the female members of the treatment team. She told of her husband's abuse toward her, of his manipulating her into a ménage-à-trois, which he had planned with an earlier girlfriend, and how he then leaked information about the relationship to his wife's family in order to isolate her from them.

The following day, both husband and wife were recovered enough to return to their apartment. The treatment team's attempts to meet with either the husband or wife over the next few days were not successful.

Six months later, the treatment team was able to meet with the wife. She informed us that within days she and her husband had returned to heroin use, though they were not in withdrawal. She maintained the relationship for approximately 3 months, after which she realized that she no longer wanted the life of heroin addiction. She ceased heroin use; left her husband, filed for divorce, and entered

nursing school, while hiding from her husband in the home of one friend or another. She attributed her ability to alter her lifestyle to a catharsis precipitated by her experience with ibogaine.¹¹⁷

Further Studies: Addiction Treatment, Effects & Safety

Animal Studies

1. Locomotor activity.

Ibogaine produces complex effects on locomotor activity in rodents. A dose of 20 mg/kg (i.p.) slightly increased locomotor activity in mice (75) while Sershen et al., (76) reported that 40 mg/kg (i.p.) decreased locomotor activity in male mice at 1, but not 24, hours after injection. The same dose inhibited locomotion in female rats during the first hour after injection, whereas one week later locomotor activity was increased (69).

Recently, Pearl and colleagues (66) noted gender differences in the effects of ibogaine on locomotor activity (40 mg/kg, i.p., 5 or 19 hours before test). In control males and females the locomotor activity decreased during the second hour of observation. Ibogaine treatment in females prevented this decrease in locomotor activity. In females, but not males, ibogaine decreased locomotor activity when given 19 hours before the test (66). Another study revealed that in male rats, a single dose of 40 mg/kg inhibited locomotor activity 4 hours after injection; a dose of 80 mg/kg decreased motor activity 24 hours after injection (77).

Rats injected with doses of 20-60 mg/kg of ibogaine displayed slower response times on sensory and sensory-motor tests and were also impaired in performing specific motor reflexes at doses of 40-60 mg/kg. Furthermore, these rats exhibited a marked reduction in locomotor activity as well as in emotionality at doses ranging from 10- 40 mg/kg. At higher doses (40 mg/kg), rats appeared virtually inactive (78). In other studies, at doses above 25 mg/kg, ibogaine produced ataxia, splayed hind limbs, outstretched forelimbs, Straub tail and hyperexcitability (79).

One hour after O-desmethylibogaine or 18-methoxy-coronaridine injection (40 mg/kg), locomotor activity was increased during the second hour of observation (66,80). In our studies, high doses (120 mg/kg) of O-desmethylibogaine and O-t-butyl-O-desmethylibogaine produced profound ataxia and convulsions (72). Ibogaine, O-desmethylibogaine, and O-t-butyl-O-desmethylibogaine, (80 mg/kg) did not significantly influence rotorod performance in mice (72).

a. Effects on locomotor activity induced by other drugs

Ibogaine has been found to affect the motor stimulant properties of amphetamine, cocaine, and morphine in rodents (hyperlocomotion induced by these drugs is believed to reflect their "psychotomimetic" qualities in man). Although the results of these studies are not uniform, in general, it has been found that in female rats this alkaloid potentiates

¹¹⁷ <http://www.doraweiner.org/alexanderlotsof.html>

the locomotor response to amphetamine and cocaine, whereas opposite effects were reported in male rats and mice.

Sershen et al., (81) found that ibogaine (40 mg/kg i.p., 2 or 18 hours before amphetamine) enhanced amphetamine (1 mg/kg) - induced hypermotility in female rats. In other studies, an amphetamine-induced increase in locomotor activity was potentiated in female rats pretreated with ibogaine (40 mg/kg, i.p.) 19 hours earlier (82). Cocaine-induced hypermotility in female rats was also potentiated by ibogaine (83,84). Broderick et al., (85,86) reported that ibogaine (20-40 mg/kg, i.p.) administration to male rats for four days reduced cocaine (20 mg/kg) - induced hypermotility. Ibogaine (40 mg/kg, i.p.) administration also reduced cocaine- (25 mg/kg, s.c.) induced hypermotility in male mice (76), a finding in agreement with the amphetamine (1 mg/kg) - ibogaine interaction (81) in this gender and species. Recent data demonstrate that the effects of ibogaine on cocaine (20 mg/kg) -induced hyperactivity in female rats are time dependent. Thus, given 1 h before cocaine, ibogaine and O-desmethylibogaine (40 mg/kg) inhibited cocaine-induced hyperactivity, but when given 19 h before cocaine they produced the opposite effect (80).

Ibogaine pretreatment (40 mg/kg, i.p. 19 hours before measurement) decreased or blocked the locomotor stimulation induced by morphine (0.5-20 mg/kg) in rats (69,71). Ibogaine administered one week (but not one month) before morphine (5 mg/kg) reduced the motor stimulant effects of this opiate (69). Pearl et al., (87) found that ibogaine (5-60 mg/kg) is more potent in inhibiting morphine-induced hyperlocomotion in rats pretreated with morphine for several (1-4) days compared to non-pretreated rats. Doses of ibogaine (5-10 mg/kg) that alone were inactive in drug-naïve animals attenuated morphine-induced hyperactivity in the morphine pretreated rats. The inhibitory effects of ibogaine on morphine-induced hyperlocomotion appear gender related, because ibogaine is more potent in female rats (66). Ibogaine-induced inhibition of morphine - induced hyperlocomotion can be reversed by coadministration of a kappa antagonist (norbinaltorphine, 10 mg/kg) and an NMDA agonist (NMDA, 20 mg/kg). However, neither norbinaltorphine nor NMDA alone blocked this action of ibogaine (88).

O-Desmethylibogaine (10-40 mg/kg) also inhibited morphine-induced hyperlocomotion in female rats. However in male rats, the dose of 10 mg/kg potentiated and 40 mg/kg inhibited morphine-induced hyperlocomotion (66,89).

2. Tremor.

Like the somewhat structurally related alkaloid harmaline, ibogaine produces tremors. In mice, ibogaine is tremorigenic both when given intracerebrally (ED₅₀ 127 nmol/g brain, ~ 46 µg/g with a latency to tremor of about 1 minute) (90), and systemically (ED₅₀ 12 mg/kg, s.c.) (61). In rats, ibogaine produced fine tremors, flattening of body posture, and flaccid hind limbs up to 2 hours after administration of 40 mg/kg (i.p.) (91). Low-amplitude whole body tremors appearing within 10 min after administration of as little as 10 mg/kg of ibogaine have also been reported (92). O'Hearn et al., (93) reported that a high dose of ibogaine (100 mg/kg) produced ataxia and high-frequency tremor of the head and trunk in rats. Ibogaine-induced tremor preferentially involves the head and upper extremity in rats and mice (94). Ibogaine (20 mg/kg) - induced tremors in mice were blocked more potently by CCK-8 and ceruletide compared to other reference

compounds, including prolyl-leucylglycine amide (MIF), atropine, haloperidol, biperiden, ethopropazine, trihexyphenidyl, methixene and clonazepam (95).

Zetler et al., (61) established the tremorigenic structure-activity relationship of several ibogaine-like compounds in descending order of potency: tabernanthine > ibogaline > ibogaine > iboxygaine > O-desmethylibogaine. Glick et al., (96) found that at behaviorally effective doses (2-80 mg/kg) ibogaine, desethylcoronaridine, harmaline and tabernanthine produced tremors for at least 2-3 hours. Both the R and S enantiomers of ibogamine and coronaridine were devoid of this action. The ibogaine-like alkaloids, 18-methoxycoronaridine and O-desmethylibogaine were also found to lack tremorigenic effects (89,97).

The tremorigenic properties of ibogaine and related compounds have been attributed to an action on GABAergic pathways (98-100) and to the blockade of voltage-dependent sodium channels.

3. Anxiety and fear.

Schneider and Sigg (101) described the behavioral effects of ibogaine in cats. The authors concluded that after intravenous administration of 2-10 mg/kg, ibogaine produced fear-like reactions that persisted for 10-20 minutes with a normal appearance observed 1-2 hours after injection. The electroencephalographic pattern obtained after ibogaine administration (2-5 mg/kg) showed a typical arousal syndrome, resembling that observed after direct stimulation of the reticular formation. This arousal syndrome was inhibited by atropine (2 mg/kg) (101). Gershon and Lang (102) described the effects of ibogaine in dogs, which become more tense and alert, interpreted as the appearance of anxiety. Moreover, they observed that the dogs exhibited a lack of recognition of both their regular handlers and environment.

Recently, Benwell et al., (103) reported reductions in open arm entries in the elevated plus-maze test when rats were tested 22 hours after pretreatment with ibogaine (40 mg/kg, i.p.). In mice, ibogaine (2.5 mg/kg) exhibited anxiogenic actions, whereas a dose of 1 mg/kg had anxiolytic effects (104). These are perhaps the most compelling preclinical data that ibogaine may influence anxiety levels because anxiolytic agents (e.g. benzodiazepines) increase open arm entries in this test.

4. Effects on self-administration of other drugs.

Ibogaine (40 mg/kg, i.p.) inhibits the self-administration of cocaine in rodents. Cappendijk and Dzoljic (105) trained male Wistar rats to intravenously self-administer cocaine; a single dose of ibogaine (40 mg/kg) decreased cocaine intake by 40-60% for several days, and repeated treatment with ibogaine at one-week intervals decreased cocaine self-administration by 60-80%. This decrease was maintained for several weeks. Similar effects were found in mice that developed a preference for cocaine in the drinking water. Thus, ibogaine administration (two weeks after the beginning of a choice period, 2 doses of 40 mg/kg, 6 hours apart) diminished cocaine preference for five days (70). According to Vocci and London (106), some investigators have failed to replicate ibogaine's effect on cocaine self-administration in the rat (107) and rhesus monkey (108). Also Dworkin et al., (109) reported that neither 40 mg/kg of ibogaine given 60 min prior

to the session, nor 80 mg/kg given 24 hour before the session, suppressed responding maintained by intravenous cocaine infusions. In this study, cocaine self-administration was inhibited by pretreatment with ibogaine (80 mg/kg) either 60 or 90 min prior to the session (109). However, because this dose of ibogaine reduced scheduled food intake, these latter effects of ibogaine on cocaine self-administration appear to be unspecific.

Glick et al., (96) demonstrated that ibogaine and several iboga alkaloids (tabernanthine, R- and S-coronaridine, R- and S- ibogamine, desethylcoronaridine, and harmaline) reduced cocaine self-administration in rats in a dose-related fashion (2.5-80 mg/kg). For some alkaloids, these effects were seen the day after injection. O-Desmethylibogaine (40 mg/kg) (89) and 18-methoxycoronaridine (97) were also reported to inhibit cocaine self-administration.

Ibogaine dose dependently (2.5-40 mg/kg) reduced intravenous morphine self-administration in female Sprague-Dawley rats immediately after injection as well as on the next day (68). In some animals, a reduced morphine intake was observed for several days; other rats required several doses of ibogaine to achieve a prolonged reduction. Similar effects were demonstrated for other ibogaine-like alkaloids including O-desmethylibogaine (89), tabernanthine, R- and S-coronaridine, R- and S- ibogamine, desethylcoronaridine, harmaline (96) and 18-methoxycoronaridine (97). However, data from another study revealed somewhat different results. Thus, Dworkin et al., (109) found that ibogaine (40 or 80 mg/kg) diminished heroin self-administration in male Fisher rats only on the day it was administered. Moreover, the same study revealed that ibogaine treatment resulted in a 97% decrease in responding for a food reinforcement schedule, suggesting that its effects on heroin self-administration were unspecific.

Ibogaine-induced inhibition of morphine self-administration has been found to be reversed by sequential administration of a kappa antagonist (norbinaltorphine, 10 mg/kg) and an NMDA agonist (NMDA, 20 mg/kg). Neither norbinaltorphine nor NMDA alone were effective in this respect (88).

Ibogaine (10-60 mg/kg) reduced alcohol intake in alcohol-preferring Fawn Hooded rats, without affecting either blood alcohol concentrations or food intake (110,111). The authors concluded that a metabolite could be involved, because ibogaine was effective in this measure when administered intraperitoneally and intragastrically, but not subcutaneously (112). A recent study demonstrated an attenuation of alcohol consumption by the ibogaine congener, 18-methoxycoronaridine in rats (113).

5. Effects on drug dependence.

Repeated administration of ibogaine (10 or 40 mg/kg) did not produce dependence in rats as measured using the Primary Physical Dependence test (114).

In morphine-dependent rats, the opioid antagonist naloxone induces a withdrawal syndrome, characterized (in rats) by increased rearing, digging, jumping, salivation and "wet-dog" head shaking. Ibogaine dose-dependently reduced the frequency of some of these withdrawal symptoms (jumping, rearing, digging, head hiding, chewing, teeth chattering, writhing, penile licking) after both intracerebroventricular (4-16 µg) (115) and i.p. administration (40 and 80 mg/kg) (74,116). However, these effects could not be replicated in other studies in either rats (39,117) or mice (118). At least the second failure to replicate can be attributed to the fact that in the Frances et al., (118) study, ibogaine

was administered to animals that developed a full withdrawal syndrome. In morphine-dependent monkeys, ibogaine (2 and 8 mg/kg, s.c.) partially suppressed the total number of withdrawal signs (114). Our studies (72,119) demonstrate that ibogaine inhibits the morphine withdrawal syndrome in mice in a dose-related fashion. This effect was reversed by combining ibogaine treatment with glycine. Structure-activity studies revealed that among various ibogaine-like compounds (including O-desmethylibogaine and O-t-butyl-O-desmethylibogaine), only ibogaine inhibited the intensity of morphine withdrawal (72). Both the ability of glycine to inhibit this effect of ibogaine and the failure of other ibogaine derivatives to potently inhibit the binding of noncompetitive NMDA antagonists (e.g., [3H]-N-[1-(2-thienyl)cyclo-hexyl]-3,4-pipenoline (TCP) and [3H]-MK-801) suggests that the NMDA antagonist actions of ibogaine are responsible for its anti-withdrawal effects. This hypothesis is supported by the observation that while O-desmethylibogaine and O-t-butyl-O-desmethylibogaine had much higher affinities for kappa opioid receptors than ibogaine did, only ibogaine exhibited a significant affinity for NMDA receptors.

TOP

6. Pain and analgesia.

Ibogaine did not mimic the analgesic action of morphine in either the tail flick (1-40 mg/kg, i.p.) or hot plate (up to 20 mg/kg, i.p.) tests, although it exhibited analgesic activity in the phenylquinone writhing test (ED₅₀ 9.7 mg/kg) (114,120,121). Ibogaine did not exhibit antinociceptive activity when given twice a day for 4 days (122). Ibogaine either increased (120,123) or did not affect (114,121) morphine analgesia in the tail flick test. Similarly, it did not influence analgesia produced by either a kappa opioid agonist (U-50,488H) or a delta opioid agonist [D-Pen²,D-Pen⁵]enkephalin (DPDPE) (121). Ibogaine has been reported to decrease analgesia in rats when given 19 hours prior to morphine (123), but another report indicates ibogaine is not effective when given 4-24 hours prior to morphine administration in mice (121). In addition, Cao and Bhargava (122) demonstrated that ibogaine (40-80 mg/kg) inhibited the development of analgesia to mu, but not kappa or delta, agonists in mice.

O-Desmethylibogaine (40 mg/kg) potentiated morphine-induced analgesia in rats (123) and mice (121). This effect was no longer apparent 19 hours after its administration (123). The potentiation of morphine-induced analgesia may be attributed to the relatively high affinity of O-desmethylibogaine at opioid mu (K_i 2.66 ± 0.62 μM) and kappa (K_i 0.96 ± 0.08 μM) receptors (124). However, this interpretation appears unlikely because O-desmethylibogaine pretreatment did not influence either kappa - or delta - opioid agonist - induced antinociception (121).

Ibogaine (10-40 mg/kg) completely blocked the antinociceptive effect of (-)-epibatidine in rodents, but was ineffective when given at a dose of 40 mg/kg 24 h before epibatidine. These data suggest that this was an effect of ibogaine and not that of its putative, long-lasting metabolite (125). This blockade of the antinociceptive effect of epibatidine is not surprising, because epibatidine-induced analgesia is mediated by a mechanism fundamentally different from that of the opioids.

7. Aggression.

Compared to other psychoactive compounds (e.g. psilocybin, JB-336, and bufotenine), ibogaine (10 mg/kg) had a negligible effect on the aggressiveness of isolated mice and muricidal behavior in rats (126).

8. Interoceptive properties.

Animals can be trained to "recognize" similarities among drugs. Such discriminative (interoceptive) properties may suggest a similar mechanism of action not necessarily related to the structure of a compound.

No generalization between ibogaine and serotonergic ligands (e.g. fenfluramine, N-(3-trifluoromethylphenyl)piperazine [TFMPP], 1-(2,5-dimethoxy-4-iodophenyl)-2-aminopropane [DOI], methyl-enedioxymethamphetamine [MDMA], quipazine or LSD) was found in drug-discrimination paradigms (127,128). However, Palumbo and Winter (129) did observe a generalization between ibogaine (15-20 mg/kg) and dimethoxymethylamphetamine [DOM] (0.6 mg/kg), as well as between ibogaine and LSD (0.1 mg/kg) in a two-lever discrimination task. Because pizotyline (BC-105) blocked DOM-appropriate and LSD-appropriate responses, an involvement of 5-HT₂ or 5-HT₁ receptors in the stimulus properties of ibogaine was suggested. Similarly, no generalization between ibogaine and CGS 10476B (a dopamine release-inhibiting agent) was found in a drug-discrimination paradigm (127).

In contrast, ibogaine substituted as an interoceptive cue in mice trained to recognize MK-801 (dizocilpine) (119), but not to [(+)-HA-966] (a low efficacy partial agonist of the glycine site at the NMDA receptor) (130) in a T-maze drug discrimination paradigm.

Helsley and colleagues (131) studied the interoceptive cue produced by ibogaine in male Fisher rats. The time course of the ibogaine (10 mg/kg) cue revealed that a maximum of ibogaine-appropriate responses were observed at a 60 min pretreatment time, and, that at the pretreatment time of 8 hours, no ibogaine-like responses were observed. These findings, together with observation that O-desmethylibogaine substituted only partially to the ibogaine cue, suggest that the subjective effects of ibogaine are not due to this putative metabolite. The same study however, revealed that harmaline completely substituted as an ibogaine cue (131). This later finding indicates that animals may recognize the tremorigenic effects of ibogaine.

9. Reinforcing effects.

Ibogaine does not appear to possess rewarding or aversive effects as measured in the conditioned place preference/aversion test (132), a preclinical procedure that can predict abuse potential in humans. Nonetheless, the same authors reported that ibogaine (40 mg/kg) may attenuate the acquisition, but not expression of morphine and amphetamine place-preference in male rats (77,132,133). This dose of ibogaine did not interfere with the acquisition of conditioned place aversion induced by either naloxone or lithium chloride (132). Ibogaine (40 mg/kg, 22 hours before the test) attenuated the establishment of lithium- and morphine-induced conditioned taste aversion (134). These results suggest a specific action of ibogaine on the neurochemical and behavioral (both reinforcing and aversive) actions of morphine rather than on opioid system(s), because the reinforcing effects of naloxone were unaffected. In support to these findings, it has been reported that

ibogaine (20 or 40 mg/kg, 24 h before the test) neither decreased the preference for a sweet solution nor attenuated conditioned preference for a flavor previously associated with sweet taste (135).

10. Effects on learning and memory.

At a dose used in the majority of contemporary behavioral studies in rodents (40 mg/kg), ibogaine has been found to attenuate the acquisition of spatial memory, perhaps due to reductions in locomotor activity and in detection of sensory information (78). However, at much lower doses (0.25 - 2.5 mg/kg), ibogaine as well as O-desmethylibogaine (but not O-t-butyl-O-desmethylibogaine) facilitated spatial memory retrieval (136). Using a spatial memory task, Helsley et al., (92) found that: 1) two doses of ibogaine (50 mg/kg, spaced by 8 hours) decreased the response rate, but did not affect acquisition rate; 2) ibogaine, even at the highest doses of 30 and 46 mg/kg given 20 min before the learning trial did not affect task acquisition; 3) 30 mg/kg of ibogaine administered just after the learning trial facilitated the consolidation of memory trace.

11. Cardiovascular actions.

Gershon and Lang (102) found that ibogaine produced a rise in blood pressure and increased heart rate in conscious dogs. These effects were blocked by atropine (137). However, in anesthetized dogs, ibogaine produced a fall in blood pressure and reduced heart rate reduction, leading the authors to propose an interaction between anaesthesia and the cardiovascular effects of ibogaine (102). Schneider and Rinehart (137) postulated a centrally mediated stimulatory effect of ibogaine. Ibogaine also potentiated the pressor response to both adrenaline and noradrenaline. More recently, Hajo-Tello et al., (138) found that tabernanthine (an alkaloid closely related to ibogaine) induced a negative inotropic effect in electrically stimulated myocardial tissue and a negative chronotropic effect in the perfused rat heart. Tabernanthine also produced bradycardia and hypotension in anesthetized rats and dogs (139). Binienda et al. (140) reported that ibogaine (50 mg/kg) reduced heart rate in rats immediately after injection; this reduction persisted up to 90 minutes after injection.¹¹⁸

Effects of iboga alkaloids on morphine and cocaine self-administration in rats: relationship to tremorigenic effects and to effects on dopamine release in nucleus accumbens and striatum.

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¹¹⁸ <http://www.ibogaine.org/alkaloids.html>

Ibogaine, a naturally occurring alkaloid, has been claimed to be effective in treating addiction to opioid and stimulant drugs and has been reported to decrease morphine and cocaine self-administration in rats. The present study sought to determine if other iboga alkaloids, as well as the chemically related harmala alkaloid harmaline, would also reduce the intravenous self-administration of morphine and cocaine in rats. Because both ibogaine and harmaline induce tremors, an effect that may be causally related to neurotoxicity in the cerebellar vermis, the temorigenic activities of the other iboga alkaloids were assessed. Lastly, in view of the involvement of the dopaminergic mesolimbic system in the actions of drugs of abuse, the effects of some of the iboga alkaloids on extracellular levels of dopamine and its metabolites in the nucleus accumbens and striatum were determined. All of the tested alkaloids (i.e., ibogaine, tabernanthine, R- and S-coronaridine, R- and S-ibogamine, desethylcoronaridine, and harmaline) dose-dependently (2.5-80 mg/kg) decreased morphine and cocaine intake in the hour after treatment; decreases in morphine and cocaine intake were also apparent the day after administration of some but not all of these alkaloids (i.e., ibogaine, tabernanthine, desethylcoronaridine, and the R-isomers of coronaridine and ibogamine). In some rats, there were persistent decreases in morphine or cocaine intake for several days after a single injection or after two or three weekly injections of one or another of these alkaloids; R-ibogamine produced such effects more consistently than any of the other alkaloids¹¹⁹

Ibogaine effects on sweet preference and amphetamine induced locomotion: implications for drug addiction.

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The neural basis of ibogaine's effects on drug-related behaviours is unclear. One possibility is that ibogaine interferes with the shared capacity of many addictive agents to stimulate brain dopamine activity, but reports of ibogaine effects on dopamine activity have been inconsistent. Our study suggests such inconsistencies may result from variations in prior drug exposure. If ibogaine blocks dopamine activity, then it should, like dopamine blockers, decrease preference for natural rewards such as sweet solutions. However, 40 mg/kg ibogaine i.p. did not decrease preference for a glucose + saccharin solution when it was administered to male Long Evans rats 24 h prior to test in Experiment 1. Nor did ibogaine attenuate conditioned preference for a neutral flavour previously paired with sweet taste in Experiment 2. In Experiment 3, effects of 40 mg/kg ibogaine on amphetamine-induced locomotion were investigated in drug-naïve and drug-experienced (four prior doses of 1.5 mg/kg amphetamine) rats. Locomotion was significantly lower in those ibogaine-treated rats that had previously been exposed to amphetamine than in those that had not. Thus, ibogaine may serve to decrease induced levels of dopamine activity in drug-experienced animals or humans from elevated,

¹¹⁹ <http://www.ibogaine.org/chronology.html>

sensitized levels back to baseline levels. This could lead to a reduction of sensitized levels of drug craving in addiction.¹²⁰

Acute and prolonged effects of ibogaine on brain dopamine metabolism and morphine-induced locomotor activity in rats.

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Ibogaine, an indolalkylamine, proposed for use in treating opiate and stimulant addiction, has been shown to modulate the dopaminergic system acutely and one day later. In the present study we sought to systematically determine the effects of ibogaine on the levels of dopamine (DA) and the dopamine metabolites 3,4 dihydroxyphenylacetic acid (DOPAC) and homovanillic acid (HVA) in tissue at several time points, between 1 h and 1 month post-injection. One hour after ibogaine-administration (40 mg/kg i.p.) a 50% decrease in DA along with a 37-100% increase in HVA were observed in all 3 brain regions studied: striatum, nucleus accumbens and prefrontal cortex. Nineteen hours after ibogaine-administration a decrease in DOPAC was seen in the nucleus accumbens and in the striatum. A week after administration of ibogaine striatal DOPAC levels were still reduced. A month after ibogaine injection there were no significant neurochemical changes in any region. We also investigated the effects of ibogaine pretreatment on morphine-induced locomotor activity, which is thought to depend on DA release. Using photocell activity cages we found that ibogaine pretreatment decreased the stimulatory motor effects induced by a wide range of morphine doses (0.5-20 mg/kg, i.p.) administered 19 h later; a similar effect was observed when morphine (5 mg/kg) was administered a week after ibogaine pretreatment. No significant changes in morphine-induced locomotion were seen a month after ibogaine pretreatment. The present findings indicate that ibogaine produces both acute and delayed effects on the tissue content of DA and its metabolites, and these changes coincide with a sustained depression of morphine-induced locomotor activity.¹²¹

Effects and aftereffects of ibogaine on morphine self-administration in rats.

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Ibogaine, a naturally occurring alkaloid, has been claimed to be effective in treating addiction to opiate and stimulant drugs. As a preclinical test of this claim, the present study sought to determine if ibogaine would reduce the intravenous self-administration of

¹²⁰ <http://www.ibogaine.org/chronology.html>

¹²¹ <http://www.ibogaine.org/chronology.html>

morphine in rats. Ibogaine dose dependently (2.5-80 mg/kg) decreased morphine intake in the hour after ibogaine treatment (acute effect) and, to a lesser extent, a day later (aftereffect); while the acute effect could be attributed to abnormal motor behavior (whole body tremors), the aftereffect occurred at a time when ibogaine should have been entirely eliminated from the body and when there was no obvious indication of ibogaine exposure. In some rats, there was a persistent decrease in morphine intake for several days or weeks after a single injection of ibogaine; other rats began to show such persistent changes only after two or three weekly injections whereas a few rats were apparently resistant to prolonged aftereffects. Aftereffects could not be attributed to a conditioned aversion. Although ibogaine also depressed responding acutely in rats trained to bar-press for water, there was no evidence of any aftereffect a day or more later; the interaction between ibogaine and morphine reinforcement was therefore somewhat specific. Further studies are needed to characterize the nature of the ibogaine-morphine interaction as well as to determine if ibogaine also affects the self-administration of other drugs.¹²²

Effects of ibogaine on acute signs of morphine withdrawal in rats: independence from tremor.

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Because of the claim that ibogaine suppresses the symptoms of "narcotic withdrawal" in humans, the effect of ibogaine on naltrexone-precipitated withdrawal signs in morphine-dependent rats was assessed. Morphine was administered subcutaneously through implanted silicone reservoirs for 5 days. Ibogaine (20, 40 or 80 mg/kg, i.p.) or saline was administered 30 min prior to challenge with naltrexone (1 mg/kg, i.p.) and withdrawal signs were counted for the following 2 hr. Ibogaine (40 and 80 mg/kg) significantly reduced the occurrence of four signs (wet-dog shakes, grooming, teeth chattering and diarrhea) during naltrexone-precipitated withdrawal; three other signs (weight loss, burying and flinching) were unaffected. Ibogaine induces head and body tremors lasting for 2-3 hr and the tremors might have interfered with the expression of opioid withdrawal. To examine this issue, another experiment was conducted in which ibogaine (40 mg/kg) or saline was administered 4 hr prior to challenge with naltrexone. Although there was a complete absence of tremors, ibogaine still significantly reduced the occurrence of the same four signs of withdrawal.¹²³

Long-lasting ibogaine protection against NMDA-induced convulsions in mice.

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¹²² <http://www.ibogaine.org/chronology.html>

¹²³ <http://www.ibogaine.org/chronology.html>

Ibogaine, a putative antiaddictive drug, is remarkable in its apparent ability to downgrade withdrawal symptoms and drug craving for extended periods of time after a single dose. Ibogaine acts as a non-competitive NMDA receptor antagonist, while NMDA has been implicated in long lasting changes in neuronal function and in the physiological basis of drug addiction. The purpose of this study was to verify if persistent changes in NMDA receptors could be shown in vivo and in vitro after a single administration of ibogaine. The time course of ibogaine effects were examined on NMDA-induced seizures and [3H] MK-801 binding to cortical membranes in mice 30 min, 24, 48, and 72 h post treatment. Ibogaine (80 mg/kg, ip) was effective in inhibiting convulsions induced by NMDA at 24 and 72 hours post administration. Likewise, [3H] MK-801 binding was significantly decreased at 24 and 72 h post ibogaine. No significant differences from controls were found at 30 min or 48 h post ibogaine. This long lasting and complex pattern of modulation of NMDA receptors prompted by a single dose of ibogaine may be associated to its antiaddictive properties.¹²⁴

Enhancement of morphine antinociception by ibogaine and noribogaine in morphine-tolerant mice.

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The effects of ibogaine, an alkaloid isolated from the bark of the African shrub, *Tabernaemontana iboga*, and noribogaine, a metabolite of ibogaine, on morphine antinociception were determined in male Swiss-Webster mice. Mice were rendered tolerant to morphine by implanting them with a pellet containing 25 mg of morphine base for 3 days. Placebo pellet-implanted mice served as controls. The antinociception of morphine (10 mg/kg, s.c.) was determined alone or in combination with an appropriate dose of ibogaine or noribogaine. Tolerance to morphine developed as a result of morphine pellet implantation as evidenced by decreased antinociceptive response to morphine. Both ibogaine and noribogaine dose-dependently enhanced morphine antinociception in morphine-tolerant but not in morphine-naïve mice. It is concluded that ibogaine and noribogaine enhance morphine antinociception in morphine-tolerant mice.¹²⁵

The effects of sigma, PCP, and opiate receptor ligands in rats trained with ibogaine as a discriminative stimulus.

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¹²⁴ <http://www.ibogaine.org/chronology.html>

¹²⁵ <http://www.ibogaine.org/chronology.html>

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Although the mechanism of action of ibogaine, a hallucinogen that may be useful in the treatment of addiction, remains unknown, receptor binding studies suggest that ibogaine produces its effects via interactions with multiple receptor types. In addition to serotonergic receptors, which have been studied previously with respect to ibogaine, likely candidates include opiate, sigma (sigma), and phencyclidine (PCP) binding sites. In an attempt to determine which of these receptor interactions are involved in the in vivo effects of ibogaine, ligands for sigma, PCP, and opiate receptors were assessed for their ability to substitute for or to antagonize the ibogaine-induced discriminative stimulus (10 mg/kg I.P., 60 min pre-session) in Fischer-344 rats. Intermediate levels of generalization were observed with the subtype nonselective sigma ligands 3-(3-hydroxyphenyl)-N-(1-propyl)-piperidine [(+)-3-PPP] (69.0%) and 1,3-di(2-tolyl)guanidine (DTG) (73.5%) but not with the sigma1-selective agents (+)-N-allylnormetazocine [(+)-SKF 10,047] and (+)-pentazocine. These findings, along with observations that ibogaine has appreciable affinity for sigma2 receptors, suggest that these receptors may be involved in the ibogaine discriminative stimulus. With regard to opiate receptors, neither morphine, the prototypic mu agonist, nor kappa selective agonists (bremazocine, and U-50488) substituted for ibogaine. However, intermediate levels of generalization were observed with the mixed action opiates (-)-SKF 10,047 (78.9%), (+/-)-pentazocine (73.9%), nalorphine (70.4%), and diprenorphine (75.0%) indicating a potential role for opiate receptors in the ibogaine stimulus. Partial substitution was also observed with naltrexone (55.6%) but not with naloxone or the selective kappa antagonist nor-binaltorphimine (nor-BNI). These agents were largely ineffective as antagonists of the ibogaine cue, although naloxone produced a moderate but statistically significant antagonism (69.8%). In addition, naloxone produced complete antagonism of the ibogaine-appropriate responding elicited by both (-)-SKF 10,047 (19.7%) and nalorphine (25.8%), whereas the ibogaine-appropriate responding produced by diprenorphine was only partially antagonized (44.4%). The latter observations taken together with the finding that both nalorphine (>100 microM) and diprenorphine (30 microM) have extremely low affinity for sigma2 receptors, suggest that the ibogaine-appropriate responding produced by these agents is not mediated by sigma2 receptors. These findings imply that opiate effects may be involved in the ibogaine stimulus. In contrast to sigma2 and opiate receptors, ibogaine's reported interactions with NMDA receptors do not appear to be involved in its discriminative stimulus, as neither PCP nor MK-801 produced a significant level of ibogaine-appropriate responding. Thus, the present study offers evidence that unlike NMDA receptors, both sigma2 and opiate receptors may be involved in the ibogaine discriminative stimulus.¹²⁶

Desirable Actions of the Anti-Addiction Drug Ibogaine against Alcohol Consumption

¹²⁶ <http://www.ibogaine.org/chronology.html>

Alcohol addiction manifests as uncontrolled drinking despite negative consequences. Few medications are available to treat the disorder. Anecdotal reports suggest that ibogaine, a natural alkaloid, reverses behaviors associated with addiction including alcoholism; however, because of side effects, ibogaine is not used clinically. In this study, we first characterized the actions of ibogaine on ethanol self-administration in rodents. Ibogaine decreased ethanol intake by rats in two-bottle choice and operant self-administration paradigms. Ibogaine also reduced operant self-administration of ethanol in a relapse model. Next, we identified a molecular mechanism that mediates the desirable activities of ibogaine on ethanol intake. Microinjection of ibogaine into the ventral tegmental area (VTA), but not the substantia nigra, reduced self-administration of ethanol, and systemic administration of ibogaine increased the expression of glial cell line-derived neurotrophic factor (GDNF) in a midbrain region that includes the VTA. In dopaminergic neuron-like SHSY5Y cells, ibogaine treatment upregulated the GDNF pathway as indicated by increases in phosphorylation of the GDNF receptor, Ret, and the downstream kinase, ERK1 (extracellular signal-regulated kinase 1). Finally, the ibogaine-mediated decrease in ethanol self-administration was mimicked by intra-VTA microinjection of GDNF and was reduced by intra-VTA delivery of anti-GDNF neutralizing antibodies. Together, these results suggest that GDNF in the VTA mediates the action of ibogaine on ethanol consumption. These findings highlight the importance of GDNF as a new target for drug development for alcoholism that may mimic the effect of ibogaine against alcohol consumption but avoid the negative side effects.¹²⁷

Human Studies.

Numerous psychotropic actions of ibogaine have been reported. These actions seem to depend on both dose and setting. In addition, the psychoactive effects of iboga extracts (which are likely to contain additional alkaloids and are usually taken in a ritualistic setting) may be different from those of ibogaine. Thus, users of the crude extract of *Tabernanthe iboga* taken in sufficiently high doses have reported fantastic visions, feelings of excitement, drunkenness, mental confusion and hallucinations when (101). The total extract of iboga shrub is certainly a central stimulant, and in higher doses may lead to convulsions, paralysis and finally respiratory arrest. The psychotropic actions of the plant extract include visual sensations; objects are seen to be surrounded by specters or rainbows. In high doses it may produce auditory, olfactory and taste synesthesias. The state of mind has been reported to vary from profound fear to frank euphoria (141).

When given orally, both ibogaine and the total iboga extract elicits subjective reactions that last for approximately 6 hours. Fifty percent of subjects are reported to experience dizziness, incoordination, nausea, and vomiting (7,33,142). Typically, the drug produced a state of drowsiness in which subjects did not want to move, open their eyes, or attend to the environment. Many subjects were light-sensitive, and covered their eyes or asked that the lights be turned off. Sounds or noises were disturbing. Ibogalin (0.1-1.2 mg/kg, p.o.), an alkaloid closely related to ibogaine and a constituent of the total iboga extract, did not produce psychotomimetic effects in humans (143). Ibogalin also differs from ibogaine in pharmacokinetics and tremorigenic activity (90).

¹²⁷ <http://www.ncbi.nlm.nih.gov/pubmed/15659598?dopt=Abstract>

The psychoactive properties of ibogaine and related compounds were studied by Naranjo (33,142) who reported that patients described the psychic state produced by ibogaine (~ 300 mg) as similar to a dream state without loss of consciousness. Ibogaine-induced fantasies [often described as a "movie run at high speed" or "slide show" (7)] were reported as rich in archetypal contents, involving animals and/or the subject with or without other individuals. These fantasies were easy to manipulate by both the subjects and the psychotherapist (33,142). At higher doses, ibogaine appears to produce visual and other hallucinations associated with severe anxiety and apprehension (101,144,145).¹²⁸

The near-death experience: a cerebellar method to protect body and soul-lessons from the Iboga healing ceremony in Gabon.

The root bark of the Iboga shrub (*Tabernanthe iboga*) is used in Gabon, Africa, to induce a near-death experience for spiritual and psychological purposes. The pharmacology of ibogaine, a psychoactive indole alkaloid extracted from the bark, has been investigated extensively because of its putative qualities to treat addiction. This review of these studies and neuroscientific approaches to the near-death experience compared with field studies of traditional African rituals has generated new insights into the neurological correlates and the psychological effects and after-effects of the near-death experience. Ibogaine stimulates the cerebellar fastigial nucleus in the same manner as ischemia and leads to a medium-term protection of the brain against glutamate-induced neurotoxicity. At the same time, it induces changes in the autonomic nervous and the cardiovascular systems, which aid in the survival of ischemia: iboga intake and ischemia both lead to slowing of electroencephalogram (EEG) activity (dominance of theta and delta waves), a stimulation of the limbic system, and a dominance of a phylogenetically older branch of the vagus nerve, originating in the dorsal motor nucleus, which lowers the metabolic rate of the body. In conclusion, the near-death experience seems to be the result of a dominance of phylogenetically and ontogenetically old neurological structures and brain waves, which are allowed to show their (para)psychological abilities in the absence of cortical dominance. If parts of the neocortex are still active and permit observation and memory performance, the experience can be integrated within the personality. The newly learned peaceful state of vagal and subcortical dominance can be actively self-induced. Implications of this model for alternative healing are discussed.¹²⁹

Pharmacokinetics, Safety, and Preliminary Efficacy Measures

Subjects were self-referred for inpatient detoxification and met inclusion/exclusion criteria. All individuals were deemed fit and underwent treatment following a physician's review of the history and physical examination. Participants did not have histories of stroke, epilepsy or axis I psychotic disorders. Results of the electrocardiogram and clinical laboratory testing were within predetermined limits. All subjects signed an

¹²⁸ <http://www.ibogaine.org/alkaloids.html>

¹²⁹ http://www.ncbi.nlm.nih.gov/pubmed/18251319?ordinalpos=1&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_RVBrief
PMID: 18251319

informed consent for ibogaine treatment. Participants included 27 treatment-seeking opioid- and cocaine-dependent men ($n = 23$) and women ($n = 4$). The mean age was 34.6 ± 1.9 years old for the opiate group and 37.5 ± 2.9 years old for the cocaine group. Mean education level was 14.0 ± 0.5 years. All participants met DSM-IV criteria for cocaine or opioid dependence and had positive urine screens at entry to the study. Individuals participated in a 14-day inpatient study to determine the safety and effectiveness of ibogaine as a potential medication treatment for drug dependence. Participants were assigned to one of three fixed-dose (500, 600, or 800 mg) ibogaine HCl treatments under open-label conditions. Ibogaine and 12-hydroxyibogamine (noribogaine) were measured in whole blood specimens by full-scan electron impact gas chromatography/mass spectrometry (GC/MS) as described previously.² Subjects were genotyped for the CYP2D6 alleles (3, 4, 5, and wildtype alleles) as described previously.⁹

On admission, participants were administered the Addiction Severity Index¹⁰ and received structured psychiatric evaluations before and after ibogaine treatment (SCID I and II). In cases where the participant's responses were deemed questionable due to intoxication or withdrawal signs, portions of all interviews were reconducted later, as necessary. Additional information about substance use history, as well as past and current medical condition(s), was gathered and later cross-referenced for accuracy through a separate comprehensive Psychosocial Assessment.

Participants were required to complete a series of standardized self-report instruments relating to mood and craving at three different time points during the study and at one month following discharge from the treatment program. Subjects were asked to provide ratings of their current level of craving for cocaine or opiates using questions from the Heroin (HCQN-29)¹¹ and Cocaine (CCQN-45) Craving Questionnaires.¹² Self-reported depressive symptoms were determined by the Beck Depression Inventory.¹³ Subjects' scores were subjected to repeated measures analyses of variance with primary drug of abuse (opiates versus cocaine) as the between-subjects factor and treatment phase (pre-ibogaine, post-ibogaine, and discharge) as the within-subjects factor for the total score from the Beck Depression Inventory and the HCQN-29 and CCQN-45 subscales.

RESULTS

FIGURE 1. Pharmacokinetics of ibogaine and noribogaine over the first 24 h after oral doses of ibogaine. Data shown are from representative male (800 mg) and female (500 mg) subjects. Values for parent drug and desmethyl metabolite were measured in whole blood samples at the times indicated.

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FIGURE 1 illustrates representative pharmacokinetic measures of the levels of parent drug and metabolite following oral doses of ibogaine. We have demonstrated previously that ibogaine is metabolized by cytochrome P4502D6 to an active metabolite noribogaine.¹⁴ In this study, the proportion of homozygous and heterozygous CYP2D6 extensive metabolizers (EM) were not significantly different between opioid- and cocaine-dependent groups (data not shown). None of the subjects was identified as a poor metabolizer (PM) genotype. The CYP-2D6-mediated metabolism of ibogaine resulted in significant levels of noribogaine in blood for male and female subjects. Ibogaine was well tolerated by both opiate- and cocaine-dependent subjects, in agreement with our previous findings

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Subjects reported clinically significant levels of depressive symptoms (i.e., Beck depression score of 11 or more) at program entry.¹³ Opiate- and cocaine-dependent subjects did not differ significantly on the Beck depression scores. TABLE 1 summarizes the effects of ibogaine treatment on depressive symptoms following ibogaine detoxification from opiates and cocaine. The results demonstrated lower levels of self-reported depressive symptoms during inpatient ibogaine treatment. Beck depression scores were significantly lower at one month after program discharge as compared to those measured at program entry. This observation suggests a lasting effect of single-dose administration of ibogaine on mood and depressive symptoms.

TABLE 3 summarizes the results for selected categories from the HCNQ-29 and CCNQ-45 craving questionnaires. These instruments inquire about specific aspects of drug

craving, including urges (category scale Desire to Use), as well as thoughts, about drug of choice or plans to use the drug (category scale, Intention to Use). The instruments incorporate questions about dynamics thought to be important for the reinstatement of drug-taking behavior by referencing the positive reinforcing effects of drugs or the expectation of the outcome from using a drug of choice (category scale, Anticipation of Positive Outcomes), or the alleviation of withdrawal states (category scale, Relief of Negative States). Perceived lack of control over drug use also was included (category scale, Lack of Control), because it is a common feature of substance abuse disorders and is most operative under conditions of active use, relapse, or for subjects at high risk.

Subjects undergoing opiate detoxification reported significantly decreased drug craving for all of the HCQN-29 scales at 36 h post-treatment mark, and mean scores remained significantly decreased at program discharge (TABLE 2). Subjects undergoing cocaine detoxification also reported significantly decreased drug craving at post-treatment and at discharge for three of the five category scales of the CCQN-45. Similar to the results of the HCQN-29, the lower mean scores for Intention to Use at program entry may reflect participants' inpatient circumstances and motivation for treatment. These results demonstrate an immediate and lasting attenuation of craving while the subject remained in treatment. At one month following discharge from the program, subjects' responses indicated that they still experienced diminished craving for cocaine and opiates (data not shown).

DISCUSSION

The results of this study revealed that levels of self-reported depressive symptoms and craving were significantly decreased following ibogaine administration. A limitation of the study is that it is based on findings in only 27 subjects; thus, replication is needed in future studies to determine the stability of the findings. Furthermore, it is not known whether the symptoms experienced in the treatment setting are unique. However, subjects were evaluated at one month after program discharge, having returned to their normal environment or following entry to residential sober living in a community setting. Future research efforts will be aimed at determining an association between CYP2D6 metabolizer status, depressive symptoms, drug craving, and relapse rates.

The concept of drug craving is believed to play a crucial role in the dynamics of relapse, although it has proven to be an elusive and difficult construct to measure. In part, this is due to its transient nature and its variable expression in addicts' subjective reports. Tiffany and co-workers¹² have suggested that many investigations involving objective measures of craving have utilized unidimensional instruments (consisting of only one or a few items) that have not been adequately tested for validity or reliability. Therefore, it has been proposed that craving might best be captured by asking sets of multidimensional questions with terms that may be more familiar to addicts and that represent distinct conceptualizations of processes that may lead to craving.^{12,15} To our knowledge, this study represents the first attempt to confirm ibogaine's purported therapeutic effects on drug craving in well-characterized cohorts of opiate- or cocaine-dependent subjects.

After treatment with ibogaine, opiate-dependent subjects were less likely to anticipate positive outcomes from heroin (or other opiate) use, less likely to believe that heroin (or opiate) use would relieve withdrawal/dysphoria, and more likely to believe in their control for abstaining or stopping their drug use. Ibogaine treatment also decreased participants' desire and intention to use heroin. Cocaine-dependent subjects were less likely to anticipate positive outcomes from cocaine use, less likely to believe that cocaine use would relieve withdrawal/dysphoria, and more likely to believe in their control in abstaining or stopping their drug use at post-ibogaine and discharge assessments than at the pre-ibogaine assessment. Treatment did not seem to affect participants' desire to use cocaine nor their intent to use cocaine, in part because of floor effects at pre-ibogaine assessments and because of the small sample size.

Drug dependence results from distinct but interrelated neurochemical adaptations, which underlie tolerance, sensitization, and withdrawal. The apparent ability of ibogaine to alter drug-taking behavior may be due to combined actions of either the parent drug and/or its active metabolite at key pharmacological targets that modulate the activity of drug-reward circuits.¹⁶ Noribogaine is longer lasting and has a unique spectrum of neurochemical activities as compared to the parent compound. Recent studies have suggested that noribogaine's efficacy as a full μ -opioid agonist may explain ibogaine's ability to block the acute signs of opiate withdrawal and its suppressive effects on morphine self-administration.¹⁷ Preclinical evaluation of noribogaine's anti-cocaine medication effects in a rat model of cocaine self-administration demonstrated that noribogaine antagonized cocaine-induced locomotor stimulation and reinforcement.¹⁸ Since ibogaine is cleared rapidly from the blood, the extended aftereffects on drug craving, mood, and cognition may be related to the actions of metabolite noribogaine. Medication development of a slow-release formulation of noribogaine for opiates and psycho stimulants dependence deserves further consideration.¹³⁰

Modulation of morphine-induced antinociception by ibogaine and noribogaine.

Bagal AA, Hough LB, Nalwalk JW, Glick SD.

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The potential modulation of morphine antinociception by the putative anti-addictive agent ibogaine and its active metabolite (noribogaine) was investigated in rats with the radiant heat tail-flick test. Ibogaine pretreatment (40 mg/kg, i.p., 19 h) significantly decreased morphine (4 mg/kg, s.c.) antinociception, with no effects in the absence of morphine. However, co-administration of ibogaine (1-40 mg/kg, i.p.) and morphine (4 mg/kg, s.c.) exhibited a dose-dependent enhancement of morphine antinociception. Co-

¹³⁰ <http://www.ibogaine-research.org/Ibogaine-Research-Project/Areas/Abstracts/Ibogaine.html>

administration of noribogaine (40 mg/kg, i.p.) and morphine also resulted in an increase in morphine antinociception, while noribogaine pretreatment (19 h) had no effect on morphine antinociception. The results show that ibogaine acutely potentiates morphine antinociception and that noribogaine could be the active metabolite responsible for this effect. However, the inhibitory effects of a 19 h ibogaine pretreatment, which resemble ibogaine-induced inhibition of morphine's stimulant properties, cannot be accounted for by noribogaine.¹³¹

Reports & Reviews of Users

Links on Reports / Experiences of T.Iboga use

<http://www.ibeginagain.org/interview-cafe.shtml>

<http://www.ibeginagain.org/interview-psychotherapy.shtml>

<http://www.ibeginagain.org/interview-trpzine.shtml>

<http://www.ibeginagain.org/interview-cafe.shtml>

<http://www.ibeginagain.org/experiences/index.shtml>

http://www.erowid.org/experiences/subs/exp_Tabernanthe_iboga.shtml

http://www.ibogaine.org/Ibogaine_JEP_Alper_et_al_2008_9-24.pdf

<http://www.myeboga.com/experience-of-an-ibogaine-treatment-provider.html>

<http://www.erowid.org/experiences/exp.php?ID=42362>

<http://www.erowid.org/experiences/exp.php?ID=9430>

<http://www.erowid.org/experiences/exp.php?ID=8729>

<http://www.erowid.org/experiences/exp.php?ID=52501>

<http://www.erowid.org/experiences/exp.php?ID=55868>

<http://www.erowid.org/experiences/exp.php?ID=48582>

<http://www.erowid.org/experiences/exp.php?ID=42104>

<http://www.erowid.org/experiences/exp.php?ID=33517>

http://www.erowid.org/chemicals/ibogaine/ibogaine_writings1.shtml

¹³¹ <http://www.ibogaine.org/chronology.html>

Use of Ibogaine HCL: Reports/Experiences

<http://www.erowid.org/experiences/exp.php?ID=39692>

<http://www.erowid.org/experiences/exp.php?ID=41522>

<http://www.erowid.org/experiences/exp.php?ID=38833>

<http://www.erowid.org/experiences/exp.php?ID=20492> (Daniel Pinchbeck)

<http://www.erowid.org/experiences/exp.php?ID=26381>

<http://www.erowid.org/experiences/exp.php?ID=58716>

<http://www.erowid.org/experiences/exp.php?ID=16466>

<http://www.erowid.org/experiences/exp.php?ID=42703>

<http://www.erowid.org/experiences/exp.php?ID=1948>

<http://www.erowid.org/experiences/exp.php?ID=34560>

<http://www.erowid.org/experiences/exp.php?ID=41752>

<http://www.erowid.org/experiences/exp.php?ID=63089>

<http://www.erowid.org/experiences/exp.php?ID=63024>

Vocanga Africana Experiences / Reports

http://www.erowid.org/experiences/subs/exp_Voacanga_africana.shtml

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<http://www.erowid.org/experiences/exp.php?ID=24493>

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<http://www.erowid.org/experiences/exp.php?ID=40496>

<http://www.erowid.org/experiences/exp.php?ID=48721>

<http://www.erowid.org/experiences/exp.php?ID=47152>

<http://leda.lycaeum.org/?ID=6064>

Experiences / Reports of Tabernaemontana Use

http://www.erowid.org/experiences/subs/exp_Tabernaemontana.shtml

<http://www.erowid.org/experiences/exp.php?ID=3716>

Research on ibogaine as a putative treatment for addiction began in the United States with a group of lay drug experimenters organized in New York in 1962 by the first author (HSL), who was 19 at that time. The group had formed to study a topic of common interest, namely, the evaluation of the subjective effects of psychoactive drugs. It consisted of a core of 20 individuals, who were mainly Caucasian, in their late teens and early 20s, and were attending or had attended college. Seven of these individuals were heroin dependent. During this period, which preceded the scheduling of "psychedelic" and other psychoactive drugs, the group attempted to evaluate a variety of agents obtained from botanical and chemical supply houses. The method of "evaluation" consisted primarily of discussion comparing the subjective effects of various categories of drugs, such as stimulants and hallucinogens. The group shared an interest in the psychotherapeutic potential of hallucinogens.

The effects of ibogaine were entirely unknown to this group's participants, who ingested it in escalating dosages ranging from 0.14 mg/kg to 19 mg/kg. An apparent effect on opioid withdrawal was noted by the heroin-dependent subgroup, and these observations became the basis for subsequent research on ibogaine in the United States. The oversight provided by the group consisted of a single individual taking notes on the experiences reported by the person taking ibogaine during the period of the strongest visualization effects, which was generally the first 4 hours. Post-treatment discussions would take place among the group members after their ibogaine experiences, the interpretations of which tended to reflect the group's common interest in psychotherapy. The absence of

any philosophical conflict over drug use provided a permissive, nonjudgmental atmosphere in which individuals could disclose information relating to effects on craving. Those who did return to heroin use offered a candid explanation that they were doing so because they identified, and accepted themselves, as heroin addicts.

The following self-report of a heroin addict treated with ibogaine is comprised of posts to a virtual Internet drug user's group. This particular individual took an initial dose of ibogaine, followed by a second dose 17 days later, and then took a third dose 56 hours following the second dose. He then reports on his state 41 days following the third dose. [return to table of contents](#)

A. Self-Report (Anonymous)

I was lucky enough to be able to obtain some ibogaine to try and help treat my heroin addiction.

Briefly here is how it went. I took the ibogaine and laid down. It took effect within a half hour or so. I had a sensation as though I were rocking, gently forward and backward. The rocking sensation would slowly increase in intensity, but not in speed. Then I would have this weird image of a twisted stick or root being shook rapidly, accompanied by a deep sound, something like a didgeridoo. When I had this image the rocking would stop. The image lasted about 3 to 5 seconds. After the image left my mind, the rocking would start again, slowly forward and back. The rocking would go on, increasing in intensity for about 20 minutes or so, then the image of the shaking root and the sound while the rocking stopped, and then started all over again. I kept feeling like something else was going to happen although nothing else did. This went on for what seemed about 5 or 6 hours.

Then I fell asleep. I had already closed my eyes after about 3 hours of this, and I don't know if it was the rocking sensation or what, but I simply fell asleep. Now I am very disappointed that I did because I feel like I missed out on most of the beneficial effects of the drug. I had no astounding revelations, nor did I really even get to analyze any part of my drug history or motivations or anything.

The next 18 hours or so consisted of intermittent waking from bizarre dreams. Every time I woke, I would be very confused and had trouble discerning reality from the dreams. None of the content of any of the dreams is memorable to me now, though. Each time I woke, I was extremely exhausted and fell back asleep within minutes. At one point I got up to go to the bathroom and was very ataxic. By the time I woke and didn't feel too exhausted to stay awake, the experience was pretty much over-just about 24 hours, which is somewhat shorter than what I understand to be the normal duration (36-48 hours). There were other slight lingering effects for another 6 hours maybe, but they were very minor.

I was extremely disappointed in myself for sleeping through the drug's effect, as I did not get any of the mental resolve and self-insight or other effects that many ibogaine users

report. After waking, I had a runny nose and watery eyes and I was truly afraid that it had not attenuated my withdrawals. However, those symptoms resolved within 3 to 4 hours, and no other withdrawal symptoms at all occurred. I was very happy about that.

So that was it. I don't feel as though I have gained anything in the way of mental, emotional, or spiritual help in staying off of drugs, which makes me fear that it didn't really work other than to get me off of the dope for right now. So I am hoping that AA will help me stay clean. I am going to try and get a hold of a second dose, but I doubt I will be able to.

I kind of feel like I blew a once-in-a-lifetime opportunity. But I didn't think that sleeping on that stuff was even possible as I have never been able to fall asleep on other psychedelics, so when I closed my eyes, I made no attempt to try and remain awake. And after I had already slept on it, the exhaustion I felt each time I woke was overwhelming.

. . . A while back I wrote about the disappointment of my first ibogaine experience. Well I have much better news this time. Overwhelming success is what I would call it.

My second experience was very different from my first and came 2 weeks and 3 days after my first experience. I had already decided to try and not use heroin for a day before taking the second dose to try and avoid sleeping through the experience like I did last time. I made it about 20 hours and was already pretty sick from withdrawal by the time I took the ibogaine. My second and third doses were both smaller than my first dose being about 14mg/kg.

The initial few hours were similar to my first experience, with a strong feeling of being, well, I guess, drugged. After the first few hours I spent the next 20 hours or longer, I really can't remember how long but it was, thinking about everything under the sun; actually I spent some time thinking about the sun itself too. I had lingering effects this time also, mostly visual effects in dim lights, but also an almost complete inability to sleep, and occasional waves of warmth or chill across my skin, especially my scalp.

I had initially planned on taking my third dose somewhere between a week and a month after the second, but I had time off from work and decided to take it during this period since it is unusual for me to have even 2 days off in a row. This may have been a mistake, but it doesn't seem to matter to me much now. So I took the third dose a little over 56 hours or so after the second. The reason I say it may have been a mistake is because the lack of sleep has lasted long enough to grow uncomfortable.

My third experience was pretty much the same as the second, both in effect and duration. It has now been about 60 hours since I took the third dose and I still have the same lingering effects I listed above.

I have had absolutely zero desire to touch heroin since I took the second dose. It has no temptation for me at all. So despite the inability to sleep I am very pleased with the results.

Well, there you have it. It does work. And it is also true that multiple doses can be effective when a single dose is not. Even though it is 4 a.m. and I haven't slept more than about 6 hours in 4 days, I am extremely happy with how things turned out.

. . . I fell off the wagon, got back on that horse, went back out and whatever other euphemisms you can think of. I had 41 days off the shit today. I went out to buy some freaking CDs with no intention of using, and somehow I came home with smack. I had to go to four places to find the two CDs I was looking for, and somehow while I was driving around the thought to use occurred, which then turned into a craving, and finally a deep need. Or so it seemed anyway. I am seriously bummed by this turn of events. At least I was smart enough to know my tolerance would be low, but damn I am flying off the smallest piece. So now I am seriously considering flushing the other 95% of what I bought. Sorry to say that in here, I know just about everyone who reads that will wince at it, but there it is. I only know where to get black tar around here, so I had to buy a \$25 blob (the smallest amount you can get) and I don't want to have any of this shit left over tomorrow or I will use it. And I doubt I could finish it tonight without getting really sick.

. . . Well I got sick as a dog and flushed the rest of the shit. Man, I didn't even enjoy the buzz. My lack of tolerance pretty much made it so that I have just been puking with a throbbing headache. I am back on the wagon, off that horse, and whatever other euphemisms you can think of for quitting dope.

I have heard from some people that their past is played out something like a movie, but I never experienced it quite like that. I did have certain things that I had more or less repressed, things dealing with my parents and my childhood, that came to the surface and I was forced to deal with them. Some of that stuff is quite unpleasant but I always feel better later. Someone put it like this and I found it fairly accurate. He said it was like taking out your emotional carpet and beating it with a broom so that all the dirt comes out. And you do feel somewhat "cleansed" afterward . . .

As far as it wearing off, you're just talking about the relief from cravings. Damn, getting off heroin with no withdrawals is reason enough to take it, the relief from cravings is really just a bonus. And a heroin addict really can't expect that just taking some other drug is going to cure them of their addiction. I mean, there are consequences of becoming an addict. Besides, the longer you go without using, the less you crave. So if you got 6 months free of cravings, you should be able to resist the urge to use if it did reappear. I had a month free of cravings and then when they did come back, I was so unaccustomed to them I think I was actually surprised to have them. Now I crave now and then, but I know that if I can resist for a few hours at the most, they will go away. And there were some mental changes (as far as attitudes and stuff) that I think were probably permanent. No acid trip I ever had made any permanent changes in my attitudes. That to me makes ibogaine seem like a very powerful drug. [return to table of contents](#)

III. Self-Help Organizations

In the late 1980s, The International Coalition for Addict Self-Help (ICASH) initiated a small number of ibogaine treatments among heroin dependent drug users, which appeared to confirm that ibogaine would eliminate narcotic withdrawal signs and interrupt drug craving ⁽¹¹⁾. More than 25 years had passed between the original observation of ibogaine's ability to interrupt opioid and cocaine dependence and the revisiting of those findings by a second group of drug users. The work of ICASH can be viewed historically in a context of AIDS patient activism and the activities of advocacy groups such as ACT UP.

ICASH sought out countries with drug policies that were not hostile to drug users and made contact with drug user activists in The Netherlands. The first and most influential of these contacts was with Nico Adriaans, a fieldworker for the European Addiction Research Institute (IVO) at Erasmus University in Rotterdam, and one of the founders of the Junkie Bond or Junkie's Union as it was popularly called ⁽¹²⁾. Shortly after contact between ICASH and Adriaans, Adriaans was treated with ibogaine and thereafter established Dutch Addict Self-Help (DASH) with G. Frenken and others. DASH's principal goals were to supply ibogaine to Dutch heroin users and to influence the Dutch government to authorize ibogaine as a medicine.

After a year of discussion concerning the background and merits of ibogaine with the late Professor Dr. Jan Bastiaans of Leiden, The Netherlands, Bastiaans agreed to attend and observe treatments for patients recommended by NDA International, a U.S. corporation involved in the attempt to develop ibogaine. NDA informed DASH of this agreement, and DASH, in turn, referred people who wished to be treated to Bastiaans for ibogaine therapy. Other Dutch physicians and researchers became interested, and in some cases they observed ibogaine therapies. The self-help organizations, during their work in the late 1980s and early 1990s, provided further case study evidence of the antiaddictive effects of ibogaine. [return to table of contents](#)

A. Self-Report (Anonymous)

The following article was written in 1990, 6 months after I underwent treatment with ibogaine in an attempt to curtail my heroin use. I was born and raised in Amsterdam and was 26 years old at the time.

I heard about ibogaine from a friend in New York, and then contacted the International Coalition for Addict Self-Help (ICASH) to request treatment for me and my boyfriend. We were the first people to be treated in Holland. My ibogaine treatment took place on October 25, 1989, in a hotel room in Amsterdam. My boyfriend had been successfully treated the day before.

The night before my treatment, I was given a small oral dose of 100 mg of Ibogaine to see if I would have an allergic reaction, which I didn't have. After an hour, I had strong memories of my childhood. I was walking through the house I was raised in. This kind of memory was a new experience in the sense that I actually viewed the interior of the house at the visual height of a child at age 4. While walking, I recalled all kinds of details in the

house, which I never expected to be relevant. I experienced how my parents must have seen me when I was a child.

Before the treatment I was told that, like in a movie, I would relive certain events in my life and I would experience repressed memories. In my experience, it didn't happen in a chronological way. At 10 o'clock in the morning I take 1200 mg of ibogaine in capsule form with some tea on an empty stomach.

I wait for a flow of memories. Twelve hours have passed since I took my last dose of heroin, therefore I am experiencing withdrawal symptoms.

After about an hour, I start visualizing pink diamond shapes. My body feels quite heavy, but I am still able to coordinate my functioning. For about an hour I am being checked on by the person who is guiding me through the treatment. To me, his appearance now resembles a pygmy. He wants to see if I start walking wobbly, one of the symptoms that ibogaine is taking effect. I am told to walk through the room several times. This request bothers me; I don't want to be disturbed. Even though the ibogaine is affecting my coordination, I keep walking straight lines. I want to show that through willpower, no drug has to influence you if you don't want it to. Through this experience I realize that the same goes for all the other drugs you can take. There is one eternal aspect in yourself that is unchangeably present. My conclusion was, "why take drugs to suppress this state of consciousness?" I also realized the enormous possibilities of a mind that is crystal clear.

In the following four hours, stroboscopic flashes of remembrance happen to me in visions and sounds. Sounds are particularly irritating to me because they echo back loudly in an oscillating way. There is a constant zooming in the room, as if there is a gigantic fly in the top corner of the room behind me. It makes me think of the writer Carlos Castaneda when he described the fly as a guard "between two worlds." I resent the idea of experiencing "this older world." In the meantime, I have already reached its vast planes.

I see several rolls of film unfold from my head through the room, displaying cartoons. I notice that the humor in these cartoons is mostly based on violent on hollow tree-trunks and I play them a message back. It's like the rhythms have always been in my head, they just needed to be relived. Totally realistically, I'm walking barefoot through the jungle and dew from the leaves drops on my skin. I'm scared of the possibility of getting attacked by wild animals or stepping on a snake. This is why the visions of Africa make me uncomfortable. For the first time in my life, I am grateful to be born white in the 20th century in Northern Europe. I realize the enormous comfort and technological possibilities I am able to enjoy in my current life.

I sit on my bed and bend my hands in front of my mouth, blowing through them as if it is a large tube or pipe directed to the ground. I am producing vibrating tunes and hear wailing sounds in the back of my head, but I don't understand why. Months after the treatment, while on a trip in India, I met a German man in Delhi, who played an Australian instrument called a "Didgeridoo." This is the first time I learned of the existence of such an instrument. It's a tube-like branch of a tree, 6 feet long, that is

hollowed out by termites and rubbed with beeswax. The instrument is played by putting the top part against your mouth and pointing the bottom down, in order to create a vibrating, wailing sound while blowing through it.

Two hours have passed since I have taken ibogaine. My stomach is upset. I throw up a little. I have a vision of walking through my brain, as if walking in a giant computer-like file cabinet. There are long narrow drawers with selected, collective information, to be opened on request. Somebody in the hotel turns on a radio and commercials are playing. Immediately a drawer in my brain is opened and all the jingles I have heard in my life come out as one long song. I realize the incredible amount of bullshit that is taking the place of more important information.

Four hours after taking ibogaine, I throw up twice. The person that is supposed to guide me through the treatment has fallen asleep, and his snoring disturbs me. On top of that, my boyfriend keeps interrupting me in an effort to share his enthusiasm of being clean. Where the hotel had provided a quiet setting for him the previous day, activities have broken loose on this Monday. Maintenance people are washing windows, vacuum cleaning hallways, and cutting trees in front of the hotel. I decide to go home to Utrecht. I leave my sleeping guide a thank-you note, in which I wish him fun exploring new, freaky cultures in Africa with his friends. On the train home I see a lot of people who I experience as being "dead in the head." I feel intensely connected with black people.

At home, I don't feel good. This gives me the feeling I have been cheated. I am not supposed to feel withdrawal now. Everything seems very awkward and I try to throw up. Throwing up helps me feel relief, but everything tastes and smells bitter from the ibogaine. In an attempt to get rid of ibogaine's effects, I decide to cop some smack (heroin), after which I feel less anxious and more relaxed, though still trippy. Later that night the effect of the heroin finishes and I lay down on the couch and fall into a dreamlike half-awake state.

I see myself laying on the couch, which is followed by a vision of myself as a fetus in my mother's womb. I am actually, very rapidly, going through a rebirthing process. I feel an incredible devotional love coming from my parents. This memory enables me to accept the mistakes my parents have made in raising me. For the first time I can feel respect for my parents, which shapes our whole relationship into a more harmonious reality.

Many other dream flashes appear. The next morning I awake fully refreshed, newborn, and hungry as a wolf. I give my heroin away to my roommate. My boyfriend and I start to evaluate our experiences. It is as if new things keep falling into place. It's as if all information in your brain file cabinet is shaken out of it's drawers on to one big pile, looked at "objectively" and put back in, untwisted from emotional trauma.

It takes time to realize that we're not getting sick. There is no need to arrange money to run to the dealer anymore. That time can now be used to prepare our planned trip to India and Nepal. The following days go by in an up and down rhythm. One day is incredibly energetic and active; the next one is needed to relax. We both feel very positive, joyful

and enthusiastic. A withdrawal never took place just some occasional yawning and minor chills. In a normal withdrawal, you need all your motivated energy to go through being sick, which burns you out completely. This time, the motivated energy is reinforced, and together with all of the visual experiences, it puts you on the path directed toward your goal.

Initially my junkie friends were very skeptical, until they realized that my boyfriend was selling his daily portion of 65 mg methadone every day, for weeks in a row, and he was not spending his money on smack, cocaine, or alcohol, but on traveling gear. Some of them thought our enthusiasm was irritating. Others wanted to experience ibogaine too, and it felt very frustrating that I couldn't give it to them.

The presence of hard drugs in my environment after the treatment was not threatening in any way. It didn't seem particularly positive or negative. It just didn't matter anymore. I did use some smack to see if I would still like it, but I didn't care for the effect anymore. It actually seemed like it reactivated the ibogaine. Up until 4 months after the treatment, I experienced colors and light very intensely. I never experienced any negative side effects, mentally or physically, after ibogaine. I've noticed that I'm not sensitive to the influence of drugs as I used to be. I lost a great deal of interest in drugs in general, because the effect of ibogaine goes far beyond their effect, though not necessarily in a pleasant way. Ibogaine is quite an ordeal; therefore I hope I don't ever need to use it again. It is not possible for me to resume the same addictive personality, unless it would be my conscious choice. Ibogaine has given me this choice. Heroin never did. Momentarily, I can use any drug without being used by them.

It is through the treatment that I don't experience events in the past as problematic anymore. I experience the present with the past as reflection. The past therefore is no longer perceived as an obstacle, but as a source of collective information. The realization of the collective consciousness is a mystical, religious experience. It confirms a unity with all living beings and old feelings of separation between "you and the outside world" disappear.

Ibogaine was a mental process for me, a form of spiritual purification and a truth serum. I had to experience its results through time. It's only now after 6 months that I can say I'm not addicted anymore. It takes time to admit there is no way back. Ibogaine is not the solution in itself, although it takes withdrawal away completely and gave me clues that made it possible to figure out why I got strung out in the first place. Ibogaine made it possible for me to accept life on its own terms and access the willpower inside myself that I needed to pick up where I had left off.

After the treatment I was clean for about a year. I got retreated, but relapsed in a matter of weeks as a result of lack in aftercare. In that time treatments were still very experimental. As I treated many other addicts, I realized that in order to stay clean, most people need some kind of therapy. Besides a quick and effective detox, ibogaine can offer a lot of information to the underlying reasons for becoming a junkie, which can be helpful in working with a therapist. I eventually quit my addiction the "old-fashioned way," with

the use of some methadone and pills. After my first treatment with ibogaine, I was so impressed that I started treating other addicts. Together with Nico Adriaans and Josien H., I set up an addict self-help group and we treated many people. We learned how important it is to provide treatments in the presence of ibogaine experienced ex-addicts and to provide aftercare.

Today we are called INTASH (International Addict Self-Help) and work to establish worldwide ibogaine treatments. [return to table of contents](#)

IV. Regulatory Development and Clinical Research Settings

The Dora Weiner Foundation (DWF), a philanthropic organization, was established in 1983 for the purpose of promoting the formal regulatory development of ibogaine. The fundraising efforts of the foundation were not successful. The general public appeared to have little more than an adversarial interest in drug users, whose condition they felt was self-induced and were deserving of little or no comfort. The pharmaceutical industry as a whole had little interest in the treatment of chemical dependence, due to the liability associated with the patient population of drug users and the desire to avoid the stigma attached to chemical dependence. Additionally, there appeared to be little profit in a medication like ibogaine that would be provided only a few times to the patient.

DWF found that though sizable grants were being provided for drug use prevention, there was no interest from the major philanthropies to make funding available for the development of medications to treat chemical dependence. The DWF became inactive, and in 1986, a for-profit corporation, NDA International, Inc., was established to raise the necessary financing to meet FDA regulatory requirements for the approval and marketing of ibogaine.

In late 1990, Howard Lotsof, president of NDA International, Inc., contacted Dr. Charles Grudzinskas, then a vice president with Lederle Laboratories. Dr. Grudzinskas asked that he be sent material on ibogaine. In a discussion some weeks later, he informed Lotsof that Lederle was not interested, but that as of January 1991, he would be named as the director of the National Institute on Drug Abuse's (NIDA's) new Medications Development Division (MDD), and to contact him once he was in office. That contact resulted in MDD/NIDA requesting NDA International to submit a Product Profile Review to MDD, and thus began the clinical development stage of ibogaine. This eventually led to FDA approval of an IND, in 1993, for University of Miami personnel under contract to NDA International, Inc., to initiate a Phase I study of ibogaine in human subjects.

The use of ibogaine in a conventional research setting has occurred in the Republic of Panama, on the island of St. Kitts, and with FDA approval at the University of Miami [\(13,14\)](#). The hospital setting of these treatments contrasts with the nonhospital environment characteristic of the informal treatments in the Netherlands and elsewhere [\(15-17\)](#).
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A. Self-Report

The following report is from a hospital setting in the Republic of Panama. The patient is a physician who had become dependent on 600 mg of Demerol a day and had attempted to stop his drug use a number of times without success. One particular interest we had in this subject was the hope that, as a medical doctor, he might provide us with some professional insight into the results of his treatment. He kept notes and provided a report on the four different doses he received, which is presented in its entirety. This subject proved to be more sensitive to ibogaine than any other individual in our studies conducted outside the United States, and he had a full-blown subjective experience from a 10 mg/kg dose. The patient had participated in a research protocol, which called for an intermediate dose of 10 mg/kg of ibogaine, which was administered as part of a pharmacokinetic study and was not expected to have a therapeutic effect, but it did. As part of the protocol, patients would then be administered a known therapeutic dose of 20 mg/kg.

Needless to say, this patient enjoyed certain advantages that affected his treatment outcome. He had a career, was highly motivated, and had available significant psychosocial supports needed by so many others who do not have his background.

(Anonymous)

First Day: 100 mg (test dose #1). I've taken my ibogaine dose, and went to bed, and stayed laying down. I felt nothing, until the medical staff arrived to do the 1-hour tests. I was surprised, because in my mental measurements, I thought I had taken ibogaine about 20 minutes earlier. When I stood up, I felt a little drowsiness, and it was difficult to walk in a straight line. I was feeling photophobia and every little noise seemed to be much louder than in reality. The sounds were very disturbing to me.

During the 2-hour testing, symptoms were worse. It was very difficult to walk in a straight line, and the room seemed to beat, like a heart. I felt very tired, and the only thing I wanted was to rest in bed. Each head movement seemed to make things worse.

When I stood up for the 3-hour test, I felt that the symptoms were disappearing. I was very hungry and ate. After eating, I was a little nauseated. For the following hours I felt nothing, except for a sensation that my mind images were richer in details than before, like a 3-D movie.

I ate with no nausea, slept very well, and awakened in very good condition.

Second Day: 25 mg (test dose #2). After this dose of ibogaine I felt nothing different from my normal state.

Third Day: 10 mg/kg (experimental dose). For the first 2 hours I felt a little different, like I had smoked marijuana. I was very calm and relaxed and all the tension of the beginning of the procedure was gone. The room seemed to be a little different and the colors around

me sharper than normal. The lights and sounds were disturbing to me, like the first time. Suddenly, with my eyes closed, I began to see images that appeared in screens, exactly like TV or cinema screens. These screens were appearing in small sizes and then they would get bigger as I focused my attention on them. Sometimes they appeared small and would then begin to grow, like I was walking in their direction, and sometimes they were going from left to right, in a continuous way.

The images on the screens were moving in slow motion and were very sharp and well defined. I saw trees moving with the wind, a man with bells in his hands, various landscapes with mountains and the sunset. At this time I was a little nauseated, and when the doctors asked me to stand up for some tests, I vomited. From all of the hundreds of images I saw this day, I recognized only two: the first, an image of myself as a child, static like a photo. This image began to approach me and get bigger, but something in the room happened and I opened my eyes, losing the image. The second image I recognized was one of some horses dancing in a circus. It was a TV show that I had seen two days before. The time seemed to go very quickly, because after about 4 hours (in my mind), they told me I had taken ibogaine 9 hours earlier! It was very difficult for me to speak in English or in Spanish. I was only able to speak in my native language. At this time the images started to appear at a slower rate and for another 2 hours I saw only screens with no images on them. About 10 to 11 hours after the beginning of the experiment, they disappeared.

I ate very well and stayed awake all night long, falling asleep only about 7 a.m., almost 24 hours after the medication had been administered. During the night I had some insights about my life and about the things I realized I was doing wrong. I stayed all the following day very tired, sleepy, but very happy and relaxed, in a way I never was before.

Fifth day: 20 mg/kg (therapeutic dose). The first 3 hours were similar to the last time: photophobia and a bad sensation with little noises. After that the images began to appear, in a slower rate than the other time. There were less images, but I was recognizing all of them as part of my childhood. I saw myself playing in my father's farm, riding a motorcycle, playing with a cousin, feeding a fish and other things. I saw some recent images, like one of my father, laughing in the living room of my house. This happened about a year ago. I understood that I had a happy childhood, and there was no one to blame for my addiction, only myself. I felt their love coming from my parents and relatives. I was feeling the same time distortion that I felt the other day, and after many hours I suddenly had an insight. It was that my mind and the universe were the same thing, and that all the people in the universe and all things in the universe are only one. I saw many mistakes I was doing in my life, so many attitudes I could not have, and this helped me to decide very strongly that I will never use Demerol again. Now I can see very clearly that I don't need Demerol to live my life. And I feel better if I don't use it. During the first 8 hours after taking the ibogaine I vomited four or five times, always when I tried to move. I was able to sleep about 4 a.m., and to eat only about 9 a.m. the following day. I awakened feeling weak, tired, and drowsy. As the hours were going, I slept a lot and began to feel better and in the morning of the following day I was normal.

Differences in Day-by-Day Life after the Experience. I returned to my normal life with absolutely no cravings, with better appetite than before, and highly self-confident. Now I can see differences in some aspects of my personality, things are changed. For example, I used to avoid driving at night, because it reminded me of a car accident I had years ago. Now I can drive anytime, day or night, without anxiety. I'm sure that this is caused by ibogaine, because now I'm not the same very anxious person I was. I'm not as shy as I used to be, too. It's easier now to contradict people when I think they are wrong, and to make them know what I want and what I think. I used to accept all that other people said only to avoid a discussion, even when I was sure that my point of view was the correct one. These are the main happenings in my ibogaine experience and the main differences I can perceive in these few days.

Some Months Later. The most important thing I learned with all that happened is that I can never underestimate the power of the addictive personality I have inside. I can never say I'm cured because if I do this, I will forget to protect myself from drug-using thoughts. I must know I have a chronic disease that will be quiet in its place until I decide to give it a chance to grow. This decision, and that's the point, is a conscious decision. If I give in, the disease will be out of control in a few days. But if I could be strong to take real and honest control of my Demerol addiction using thoughts, I will be free forever.

A few days ago, because of professional needs, I had to keep two Demerol doses with me, in my house, all night long. To protect myself, I gave them to my wife. But it was amazing to see how I was not anxious to use them but to give them to the patients that needed them. I clearly felt that Demerol was a strange thing in my environment. I wasn't curious about the place my wife had put them. I wasn't feeling any craving. I was only looking forward to the moment I could give them to the patient and say, I've done it. And I did it, because of all of you from NDA. I don't want to be boring, but I have no words to say how grateful we, my family and I, are. I will remember you for a lifetime. [return to table of contents](#)

----- <http://www.doraweiner.org/alexanderlotsof.html>

Art Inspired by Iboga



"The Rise and Fall of Addiction" - in memory of the late Paul Katan
Triptych by Geerte Frenken © 1991, Oil on canvas

Doctor Lotsof's



Poster: Dave Hunter

© 2004 [Dave Hunter](#)

Legal Status

Insurance

The classification of ibogaine as an experimental drug/substance does not allow any insurance company in Europe (or the States) to cover the costs involved.¹³²

Legality

Iboga is outlawed or restricted in **Belgium, Denmark, France**¹³³, **Sweden, Switzerland** and the **United States**. Root material and extracts thereof is obtainable through various European smart shops, ibogaine is also available in crystal form.¹³⁴

Australia

Ibogaine is clearly illegal to import into Australia without a license, it is "Schedule IV" in the import laws: AU Import Regulations. Customs import restrictions would thus make any plant (such as Iboga) material that contains any amount of ibogaine subject to the Schedule IV import restrictions. Shaman Australis reports that plants containing ibogaine are blocked from import. Tabernanthe iboga, the plant, is not controlled within the borders of Australia and there is no evidence of addiction or widespread use of this plant. See Shaman Australis for more information. (Last updated Aug 2008)

Belgium

We have been told that Tabernanthe iboga is listed as "officially unfit for human consumption".

(unconfirmed)(thanks W)

Canada

Tabernanthe iboga appears to be uncontrolled in Canada. We have been told that it is available in headshops in Vancouver. (thanks R)

Finland

We have been told that Tabernanthe iboga and its parts are uncontrolled in Finland. (unconfirmed) (thanks S)

France

Tabernanthe iboga, Tabernanthe manii, and ibogaine were all added to the list of controlled substances in France on March 12, 2007. See rb.juris-classeur.com: "Tabernanthe iboga, Tabernanthe manii, ibogaine, ses isomères, esters, éthers et leurs sels qu'ils soient d'origine naturelle ou synthétique ainsi que toutes préparations qui en contiennent." (thanks CHG) (last updated Mar 31, 2007)

Japan

We have been told that powdered iboga root is available in headshops in Japan. (unconfirmed) (thanks S4M)

Netherlands

¹³² <http://www.ibeginagain.org/treatment.shtml>

¹³³ [Arrêté du 12 mars 2007 modifiant l'arrêté du 22 février 1990 fixant la liste des substances classées comme stupéfiants](#)

¹³⁴ http://en.wikipedia.org/wiki/Tabernanthe_iboga

We have been told that in 2005 that powdered iboga root is available in smart shops in the Netherlands. (unconfirmed) (thanks D)

Slovenia

We have been told that T. Iboga as a plant (including it's dried and/or powdered parts, extracts and pure ibogaine) are not listed in any group of the PAS list, so it should be legal to possess. It is probably not legal to sell it as a food supplement. (unconfirmed) (thanks MA)

We have been told that a religious group in Slovenia called "Sakrament Prehoda" uses iboga as a sacrament. (thanks S)¹³⁵

Drug Testing

U.S. DRUG TESTING SUMMARY

Ibogaine:

Tested for in Standard Drug Tests?

NO

Tested for in Extended Drug Tests?

NO

Possible to Test for?

Unknown

Detection Period in Urine

Unknown

Urine Testing

We are not aware of any simple drug tests that would show ibogaine usage. Ibogaine is not one of the SAMHSA-5 standardly tested for in the basic drug test, nor is it included in the extended drug tests. It is not chemically similar to any of the drugs tested for, so should not trigger the tests as another substance. It would be possible to detect it and its metabolites in blood or urine, but a lab would specifically have to decide to look for it and would probably require specialized assays not normally used by drug testing companies.

We are unaware of Ibogaine ever having been tested for (in urine or blood), most likely because of its extreme rarity.¹³⁶

It can be expected that Iboga/Ibogaine won't be tested for in ANY drug-tests, however, it could be possible if the testers know ahead what to look for, this would probably be a blood-test. It has not occurred yet, also since it doesn't seem necessary, one should not (and probably won't) drive while on Iboga nor do anything related to working with vehicles or taking responsibilities in one way or another.

¹³⁵ http://www.erowid.org/plants/iboga/iboga_law.shtml

¹³⁶ http://www.erowid.org/chemicals/ibogaine/ibogaine_testing.shtml

Patents on Iboga

Here is a selection of iboga patents and patent applications filed in the last decade:
US Patent or Application Number Title Owner/ Inventor Comment

Application 20050288375, published 29 Dec 2005 Method and composition for treating neurodegenerative disorders Myriad Genetics, Salt Lake City, UT, US Claims ibogaine (and other compounds) used with an NSAID “for treating and preventing neurodegenerative disorders like Alzheimer's disease, dementia, mild cognitive impairment.”

Application 20050222270, published 6 Oct 2005, and patent 5,958,919, issued 28 Sep 1999, and others Prolonged administration of NMDA antagonist drug and safer drug to create improved stable neural homeostasis Washington University, St. Louis, MO, US Use of ibogaine to enhance safety in a technique to “ease problems such as addictions to illegal or pain-killing drugs, nicotine, or alcohol, compulsive or criminal behavioral problems, severe depression, obsessive-compulsive disorders, phobias, etc.”

Patent 6,416,793, issued 9 Jul 2002 Formulations and use of controlled-release indole alkaloids Bio Response, LLC, Boulder, CO. US Ibogaine (and yohimbe) formulations with enhanced absorption by the body

Patent 6,348,456, issued 19 Feb 2002, and Application 20030153552, published 14 Aug 2003 Method of treating chemical dependency in mammals and a composition therefor Mash; Deborah C. (University of Miami professor) and co-inventors Claims noribogaine, a variant of ibogaine suitable for pharmaceuticals, and its use to treat addiction to “heroin, cocaine, alcohol, nicotine, amphetamine, methamphetamine, opium, methadone, hycodan, morphine and caffeine

Patent 6,211,360, issued 3 April 2001 Ibogamine congeners Albany Medical College (Albany, NY, US) and the University of Vermont (US). Ibogamine-derived compounds for treating drug addiction Patent 5,616,575, issued 1 Apr 1997 Bioactive tricyclic ibogaine analogs University of Minnesota, US and University of Miami, US Ibogamine-derived compounds for treating drug addiction.¹³⁷

Options for Treatment

You can find information on Treatment Options here:
<http://www.myeboga.com/providers.html>

As well as these are available:

¹³⁷ [Out of Africa: Mysteries of Access and Benefit Sharing](#)

Europe

- Edward Conn is an Ibogaine practitioner working in London, England. He has been treating people for four years and was featured in the June 2004 BBC documentary facilitating a methodone detox for BAFTA nominated film maker David Scott at his home in London. The film will be available by mail order. Ed's website is www.becomewhole.co.uk. Edward is contactable either by telephone or e-mail - (+44) 07904 707 694 or wardconn@hotmail.com NOT GOVERNMENT LICENSED

- Ibogaine Therapy UK. Medically supervised Ibogaine therapy. Contact Dr Peter Brackenridge: Tel: +44 (0)7801 106841 info@ibogainetherapy.co.uk. Website www.ibogainetherapy.co.uk. NOT GOVERNMENT LICENSED

- Ibogaine treatments in the UK and the rest of Europe, cost GBP 600-800. concessionary cases considered. Visit www.ibogainetreatment.net for further details NOT GOVERNMENT LICENSED

- Advice on Iboga/Ibogaine Treatment in Norwich, Norfolk, UK. Contact Paul Brookshaw. Email : Nobun@hushmail.com Tel: +44 (0)7729215015 NOT GOVERNMENT LICENSED

- Treatment with iboga rootbark, Bwiti style, in France. E-mail maurizio@iboga.org for more details or visit www.iboga.org NOT GOVERNMENT LICENSED

- Medically supervised ibogaine treatment in Paris, France with Karl Naeher for around £1,000, (US\$1900). Contact Dr Karl Naeher MA.DC, Paris, France, tel: +33 6 32 47 33 30 or visit www.ibogainetreatment.com for further details. NOT GOVERNMENT LICENSED.

- SARA'S HOUSE, Breukelen, Netherlands. Pastoral, holistic treatment using Iboga root-extract for addiction & emotional trauma problems. Cost - approx Euros 1500. Sara Glatt is a registered holistic healer with 4 years Iboga experience who treats clients as 'part of the family'. Contact Sara at sara119@xs4all.nl to find out more. NOT GOVERNMENT LICENSED

- Treatment with Tabernanthe iboga in either the Cameroun or France. Cost approx UK£800, (~US\$1,300). Visit www.iboga.org for further information. NOT GOVERNMENT LICENSED

The Americas

- Treatment with ibogaine at the Advanced Healing Transitions clinic in Cancun, Mexico. Cost ~UK£3,750, (US\$7,500). Visit www.advancedhealthtransitions.com for further details. IBOGAINE'S LEGAL STATUS IN MEXICO IS "UNLICENSED EXPERIMENTAL MEDICATION"

- Treatment with ibogaine at the Healing Transitions clinic in St Kitts, West Indies. Cost ~UK£5,000, (US\$9,000). Visit www.healingvisions.com for further details. GOVERNMENT LICENSED

- Medically supervised treatment with the Ibogaine Association near San Diego in Playas de Tijuana, Mexico. Licensed facility. Cost \$5500. Visit www.detoxnaturally.com for further details. IBOGAINE'S LEGAL STATUS IN MEXICO IS "UNLICENSED EXPERIMENTAL MEDICATION"

- IBOGA THERAPY HOUSE, Vancouver, B.C., Canada - The Iboga Therapy House provides Ibogaine-assisted therapy and detoxification treatment to those with an honest desire and deep commitment to changing substance use patterns in a therapeutic setting. We provide a supportive environment for the exploration of deeper issues surrounding one's addiction through processes facilitated by an Ibogaine experience. The program is based on a holistic Harm Reduction and Health Promotion-based approach to recovery and personal exploration with a focus on assisting in the reintegration of the powerful experience that Ibogaine may catalyze. Visit www.ibogatherapyhouse.net for more information. NOT GOVERNMENT LICENSED

- Ibogaine and iboga root extract treatment on Vancouver Island by KC for addiction and emotional trauma. Medically supervised in-home treatment. KC is an alcohol/substance abuse counselor and holistic healer with over 15 years of experience. Cost:\$2000 USD. Limited partial scholarships available. Donations accepted for the construction of "IBO ETC" - Iboga earthship treatment center, fall 2006. Contact itcdt@hotmail.com for more details.

- Ibogaine treatment in a Panamanian hospital. Cost - approx UK£9,000, (US\$15,000). GOVERNMENT LICENSED Contact: Dr. Edgardo Della Sera, Panama Ibogaine Project, Clinica del Nino, Apdo 447, David, Chiriqui, Republic of Panama; e-mail ibogaine@chiriqui.com; fax: +507 777 3579

- Ibogaine treatment via Eric Taub's "I begin again" organisation. Based in Florida, but operating outside of the US. Cost - UK£600-1,500, (US\$900-2,500). Visit www.ibeginagain.org for further details. NOT GOVERNMENT LICENSED

- Ibogaine treatment in a Brazilian hospital. Cost - approx US\$1,800, (US\$3,000). 4-5 day treatment. Treatments have been offered here since 1997. GOVERNMENT LICENSED Contact: Dr. Bruno Daniel Rasmussen Chaves; e-mail ibogaine@bol.com.br.

- Professional and legal ibogaine treatment in Baja, Mexico Visit www.ibogaineclinics.com for more information. GOVERNMENT LICENSED

- Ibogaine treatment in the Guatemalan Highlands. Holistic approach. Visit www.holisticalamontana.com for further information. NOT GOVERNMENT LICENSED

- Ibogaine treatment in the Mexico. Visit www.mariposamedispa.com for further information. GOVERNMENT LICENSED

Africa

- For information on iboga, and Bwiti initiation in Gabon, West Africa please visit www.bwiti.com LICENSING STATUS UNKNOWN

- IBOGAINE SA The Wellness Centre for Substance Abuse And Self Awareness, Kempton Park, South Africa

Contact: Kevin Walker

Clinic: + 27 11 391 7005

Cell: + 27 (0) 82 557 8480

E mail: kevin@ibogainesa.co.za

Website: www.ibogainesa.co.za

Address: 3 Harry van Wyk Street Norkempark Kempton Park South Africa 1618

NOT GOVERNMENT LICENSED

- Ibogaine African Renaissance Johannesburg (Kempton Park) South Africa. "We" are here to help "you" kick the habit, in the most comfortable environment where we are at your service, keeping your safety in mind!

Contact: Kevin Walker

Clinic: + 27 11 976 4314

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E mail: kevin@ibogaineafricanrenaissance.com

Website: www.ibogaineafricanrenaissance.com

Address: 12 Floria Street Edleen Kempton Park South Africa 1619

NOT GOVERNMENT LICENSED

- Ibogaine treatment with Simon "Nzegho" Loxton in Cape Town, South Africa. "I am a registered traditional health care practitioner ref no 36/08 issued by Secteur de la medecine traditionnelle; Gabon. Using a patient specific protocol to suit the needs of the individual. I use the manual for ibogaine therapy; Screening; Safety; Monitoring and Aftercare by Howard Lotsof and Boaz Wachtel as a minimum standard for practice."

Visit www.iboga.co.za for more information. NOT GOVERNMENT LICENSED

- Treatment with Tabernanthe iboga in either the Cameroun or France. Cost approx UK£800, (~US\$1,300). Visit www.iboga.org for further information. NOT GOVERNMENT LICENSED

Asia

- Ibogaine treatment and rehab in Koh Pha-Ngan, Thailand. Visit www.secundumvitae.com for more information. LICENSING STATUS UNKNOWN

- Ibogaine Thailand. Iboga treatment in tropical paradise, Thailand, for people seeking spiritual and personal transformation and evolution. Price is 50.000 Thai Baht for full initiation and accomendation. J from Denmark offers Iboga initiations in beautiful surroundings and homely atmosphere with personal attention from beginning to the end. He has a lifetime of experience as a holistic therapist and facilitated Iboga over many years. We also sell pure hcl 98% iboga. . Email ibogathailand@gmail.com for more information. LICENSING STATUS UNKNOWN

Australasia

- Ibogaine treatment in Brisbane, Australia 4 to 7 days. Cost Au 2000 to Au 2500. All enquires to email jasenhappy@hotmail.com NOT GOVERNMENT LICENSED

Options for Supply

Possession of ibogaine is a criminal offence in the USA, Denmark, Belgium, Sweden and Switzerland, and may be so in other countries. Check with your local government drugs unit prior to purchase.

- 98% pure Ibogaine hydrochloride. E-mail sacrament@sacrament.kibla.si for details. NOT GOVERNMENT LICENSED

- Tabernanthe Iboga rootbark and many other medicinal plants available on www.africaphyto.com. We sell Iboga both retail and wholesale. NOT GOVERNMENT LICENSED

- Tabernanthe iboga whole plant, extract, and ibogaine HCl all available from this Canada based outlet. www.ethnogarden.com NOT GOVERNMENT LICENSED

- Tabernanthe iboga root and rootbark. Currently available from a Dutch-based site, www.maya-ethnobotanicals.com NOT GOVERNMENT LICENSED

- Tabernanthe iboga root bark powder capsules, Voacanga, Rauwolfia and other herbs available in the U.K from www.herb-a-list.co.uk NOT GOVERNMENT LICENSED

- Tabernanthe iboga root bark available from <http://psychoactiveherbs.com> NOT GOVERNMENT LICENSED

- Tabernanthe iboga powdered root capsules. Developed as a low-dose daily regime in Holland and Gabon, these pre-packed capsules come as a complete course. Cost approx. US\$20 per 60. Visit www.iboga.nl for details. NOT GOVERNMENT LICENSED

- Indra iboga extract (extracted iboga alkaloids) from the Indra Project in Kristiania, Denmark. Contact Indra at www.indra.dk/ for further details. Indra estimate this product to be approximately one quarter to one fifth the strength of pure ibogaine. NOT

Further Literature & Media

Videos about Iboga / Iboga Treatment / Bwiti

BBC Documentary: Detox or Die. A heroin addict going through detox with the African Psychedelic Ibogaine

1. Part 1: <http://de.youtube.com/watch?v=c2mhcyU6Ttg&feature=rec-HM-rn>
2. Part 2: <http://de.youtube.com/watch?v=mtrtWfY0fRI&feature=related>
3. Part 3: <http://de.youtube.com/watch?v=YVA-14tqnLw&feature=related>
4. Part 4: http://de.youtube.com/watch?v=50Y_oCYbVgk&feature=related
5. Part 5: <http://de.youtube.com/watch?v=IRuDNwgxs2A&feature=related>

Iboga Therapy at Sara's House In Holland (see Treatment options)

1. <http://de.youtube.com/watch?v=01zpMjU6pF8>
2. <http://de.youtube.com/watch?v=S1xhfPWJwzk&feature=related>
3. <http://de.youtube.com/watch?v=mbV5j7UYITE>
4. <http://de.youtube.com/watch?v=rgVf6M4rAxE>
5. <http://de.youtube.com/watch?v=Q8fFjS4tWJ8>

Websites about Iboga

sdfds

Books

Paroles d'un Enfant du Bwiti: Les enseignements d'Iboga, Laval-Jeantet, Marion - French account of life with the Bwiti. Available to buy from loriginel.com/product_info.php?products_id=91 (L'originel, 2005)

The Ibogaine Story, Dana Beal & Paul DeRienzo - Dana and Paul's idiosyncratic account of ibogaine development, set within the context of the developing underground scene of latter-day New York, contains many fascinating insights into the drug's history. (Autonomeia 1997)

The Healing Journey, Claudio Naranjo - Chilean psychiatrist Naranjo details and interprets several ibogaine experiences from his casebook, as well as summarising many aspects of drug-assisted psychotherapy. The chapter on ibogaine is available online at www.ibogaine.org/naranjo.html (Ballantine 1973, out of print)

An Introduction to Ibogaine, Nick Sandberg - Cheap and extensive guide covering many aspects from ibogaine treatment to the Bwiti. (Relax UK, 2000 and online here)

¹³⁸ <http://www.ibogaine.co.uk/options.htm>

The Neurochemistry of Drugs of Abuse: Cocaine, Ibogaine, and Substituted Amphetamines, editor Syed F. Ali - modern scientific research summarised and explored. (NY Academy of Sciences 2000)

The Alkaloids, Chapter 3 - Pharmacology of Ibogaine and Ibogaine-related Alkaloids, Piotr Popik and Phil Skolnick - A summary of recent scientific research into ibogaine. (Available from Relax UK, the publishers of this booklet, price £2.50, inc P&P in the UK.1999).

Bwiti: An ethnography of the religious imagination in Africa, James W. Fernandez - Anthropologist Fernandez explores Bwiti folklore. (Publisher unknown, out of print)

Péril Blanc, René Bureau - French language account of the author's personal experiences in Gabon with many insights into the Bwiti and iboga. (Publisher unknown, out of print)

La Naissance à l'Envers, André Marie - as above.

Tripping on iboga - In Gabon, a disenchanted journalist embarks on a hallucinogenic tribal rite, Daniel Pinchbeck <http://www.salon.com/travel/feature/1999/11/03/iboga/>

James W. Fernandez's book, Bwiti: An Ethnography of the Religious Imagination in Africa

Ibogaine: Proceedings from the First International Conference (The Alkaloids) (The Alkaloids) (Paperback)
by Stanley D. Glick

The Ibogaine Story: Report on the Staten Island Project (Paperback)
by Dana Beal (Author), Paul De Rienzo (Author), Paul De Rienzo (Author)

Breaking Open the Head: A Psychedelic Journey into the Heart of Contemporary Shamanism (Paperback)
by Daniel Pinchbeck

Title Author/s First Published ISBN Plants of the Gods Richard Evan Schultes & Albert Hoffman 1979 0-89281-406-3 Psychedelics Encyclopedia Peter Stafford 1982 0-914171-51-8 Ayahuasca - Hallucinogens, Consciousness and the Spirit of Nature Ralph Metzner 1999 1-56025-160-3 In Search of the Ultimate High Nicholas and Anja Saunders, Michelle Pauli 2000 0-71267087-4 Iboga (Slovenia) Amon Knut ml 1994 961-90159-0-8 The Ibogaine Story Paul de Rienzo, Dana Beal et al 1997 1-57027-029-5 Tricycle Buddhist Review Issue 21 1996 Persephone's Quest R.Gordon Wasson et al 1986 0-300-05266-9

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Articles on 18-Methoxycoronaridine

The following is a list of selected publications.

1. Metabolism of 18-Methoxycoronaridine, an Ibogaine Analog, to 18-Hydroxycoronaridine by Genetically Variable CYP2C19. Zhang W, Ramamoorthy Y, Tyndale RF, Glick SD, Maisonneuve IM, Kuehne ME, Sellers EM. *Drug Metab Dispos* 2002 Jun 1;30(6):663-669
2. Antagonism of $\alpha 3\beta 4$ nicotinic receptors as a strategy to reduce opioid and stimulant self-administration. Glick SD, Maisonneuve IM, Kitchen BA, Fleck MW. *Eur J Pharmacol* 2002 Mar 1;438(1-2):99-105
3. Drug discrimination studies with ibogaine. Helsley S, Rabin RA, Winter JC. *Alkaloids Chem Biol* 2001;56:63-77
4. 18-MC reduces methamphetamine and nicotine self-administration in rats. Glick SD, Maisonneuve IM, Dickinson HA. *Neuroreport* 2000 Jun 26;11(9):2013-5
5. Pharmacological comparison of the effect of ibogaine and 18-methoxycoronaridine on isolated smooth muscle from the rat and guinea-pig. Munday MK, Blaylock NA, Mason R, Glick SD, Maisonneuve IM, Wilson VG. *Br J Pharmacol* 2000 Apr;129(8):1561-8
6. Synthesis of enantiomerically pure (+)- and (-)-18-methoxycoronaridine hydrochloride and their preliminary assessment as anti-addictive agents. King CH, Meckler H, Herr RJ, Trova MP, Glick SD, Maisonneuve IM. *Bioorg Med Chem Lett* 2000 Mar 6;10(5):473-6
7. 18-Methoxycoronaridine (18-MC) and ibogaine: comparison of antiaddictive efficacy, toxicity, and mechanisms of action. Glick SD, Maisonneuve IM, Szumlanski KK. *Ann N Y Acad Sci* 2000;914:369-86
8. Development of novel medications for drug addiction. The legacy of an African shrub. Glick SD, Maisonneuve IM. *Ann N Y Acad Sci* 2000;909:88-103
9. Acute iboga alkaloid effects on extracellular serotonin (5-HT) levels in nucleus accumbens and striatum in rats. Wei D, Maisonneuve IM, Kuehne ME, Glick SD. *Brain Res* 1998 Aug 3;800(2):260-8
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11. Attenuation of alcohol consumption by a novel nontoxic ibogaine analogue (18-methoxycoronaridine) in alcohol-preferring rats. Rezvani AH, Overstreet DH, Yang Y, Maisonneuve IM, Bandarage UK, Kuehne ME, Glick SD. *Pharmacol Biochem Behav* 1997 Oct;58(2):615-619.
12. Time-dependent interactions between iboga agents and cocaine. Maisonneuve IM, Visker KE, Mann GL, Bandarage UK, Kuehne ME, Glick SD. *Eur J Pharmacol* 1997 Oct 8;336(2-3):123-126.
13. 18-Methoxycoronaridine, a non-toxic iboga alkaloid congener: effects on morphine and cocaine self-administration and on mesolimbic dopamine release in rats. Glick SD, Kuehne ME, Maisonneuve IM, Bandarage UK, Molinari HH. *Brain Res* 1996 May 6;719(1-2):29-35.